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Original Department.

The Blood from a Therapeutic Standpoint.

A CLINICAL LECTURE BY PROF. DUJARDIN-BEAUMETZ.*

GENTLEMEN: I propose to devote the present course of lectures to the treatment of general diseases. But first, in conformity to the plan which I have adopted, I must make some general remarks on the blood, considered from the standpoint of therapeutics.

It may be said that, from the most remote antiquity, the blood has ever attracted the attention of physicians, and our ancestors, struck by the grave disorders which supervene as the result of hæmorrhages, assigned to the sanguineous fluid the source of life itself. We see, in fact, this notion expressed in Leviticus xvii, 14: "The life of all flesh is the blood thereof."

Since the time that Swammerdam, and especially Leuwenhoeck, discovered the blood corpuscles, making use of the new instrument which their fellow-countryman Zachary Jans, the obscure optician, of Middelburg, had just invented—thanks to that microscope which was destined to so profoundly revolutionize the study of the natural sciences—the number of works on hæmatology has been considerable. If I were to attempt to enumerate them all, it would take more time than I have to devote to this lecture.

In this great scientific movement France has not been behind, and to the labors of Prévost and Dumas, of Magendie, of Andral and Gavarret, of Denis of Commercy, and of Claude Bernard, must now be joined the important researches of my colleague and friend, Professor Hayem, who has just published his remarkable work on the modifications of the blood under the influence of medicinal agents, a work to

*Translated from advance sheets for the THERAPEUTIC GAZETTE, by E. P. Hurd, M. D., Newburyport, Mass.

which I shall often have occasion to refer in the course of these lectures.

At the same time, despite these so numerous researches, the study of the blood, especially from a therapeutic standpoint, presents still many obscure points; and if we possess precise data concerning the anatomical and physiological constitution of this fluid, we are ignorant, in very many cases, of the modifications which it undergoes under the influence of medicines.

The blood, this "flowing flesh" (chair coulante) of Bordeaux, and which Claude Bernard has so well defined as the *interior environment* of the organism, presents two distinct parts, a liquid plasma and organized particles.

The plasma contains, as you are aware, fibrin, albumen, water, salts and gases.[1] You know, also, that it is to one of the constituent parts of this plasma, the fibrin, that is due the phenomenon of the coagulation of the blood, although we are reduced to hypotheses to explain the mechanism of the coagulation. You know, also, that the plasma has an alkaline reaction, which it owes to salts of soda; which, moreover, is constant and is found throughout the whole animal kingdom. This is a matter of prime importance, from a therapeutic point of view, for all medicaments which do not possess this alkaline reaction, or which are unable to undergo, in the economy and before entering the blood, certain modifications converting them into an alkaline compound, cannot become an integral part of the circulating fluid, and can have but a local action.

This predominance of the salts of sodium in the blood plasma explains why the sodium salts are better tolerated in the organism than the salts of potassium. This is a fact on which I insisted when speaking of the elimination of medicines by the kidneys, and I need only to refer you to what I then said.[2]

The blood corpuscles play a preponderating rôle in the blood. Veritable travelling merchants of hæmatosis,[3] as Kuss felicitously calls them, they speed their way, carrying life to the most remote points of the economy. These globules present themselves, as you are aware, under three aspects—the red corpuscles, the white corpuscles, and the hæmatoblasts.[4]

1 Davy, in 1799, extracted oxygen and carbonic acid from blood. Since the application of the vacuum, and the gas-pump of Ludwig, to this study, the analysis has been completed. According to all analyses, 100 volumes of arterial blood (of the dog) contain 22.8 volumes of oxygen at about the freezing point. This oxygen is intimately combined with hæmoglobin, and the richer the blood in hæmoglobin, the more oxygen it contains.

One hundred volumes of arterial blood (in a dog) contain 33.3 vols. CO_2; this gas comes from the serum. Schoeffer and Dreyer have shown that the blood globules have an action in the disengagement of CO_2 from the serum.

The blood also contains a certain quantity of nitrogen.

2 Chap. 1, Vol II, The Kidneys from a Therapeutic Standpoint.

3 Commis voyageurs de l' hématose.

4 The white corpuscles or leucocytes are spherical and more voluminous than the red corpuscles. Their diameter is from 4 to 14 thousandths of a millimetre. But little is known of the condition of these globules, which are with difficulty separated from the red corpuscles. There is about 1 white to 350—500 red corpuscles; one cubic millimetre of blood contains 8,000. The hæmatoblasts are very small bodies, about 3-1000 of a millimetre in diameter. They are colorless, and are discoid, biconcave like the red globules. They are in a marked degree susceptible of change, and after issuing from the blood-vessels they take on widely varying forms. These hæmatoblasts exist in the blood of all vertebrates. They give origin to the red corpuscles. Their own origin is involved in obscurity. Hayem supposes them to originate in the lymphatic network. (Hayem —Researches on the Normal Anatomy of the Blood, p. 99.)

It was Hayem who first called attention to these last-named corpuscles, and pointed out their importance. These little bodies, very refractive and very alterable, are, in fact, red corpuscles in the process of formation; therefore, whenever it is necessary for us to study the renewal and regeneration of the blood, we ought to take great account of their number and their form. As for the red corpuscles, I can teach you nothing new as to their constitution. You are not ignorant of their form, their structure, or the important physiological rôle which they play. The hæmoglobin which they contain gives to the blood its color, and as this hæmoglobin has iron as one of its constituents, you understand the importance of chalybeates in impoverishments of the blood. This is, however, a more complex question than at first sight it seems to be, and will be more fully discussed hereafter, when we come to treat of anæmia and chlorosis.

Do these blood globules undergo modifications in the presence of medicinal substances? This very important point is, unfortunately, not yet decided. Binz, Kerner, Blake, and, more recently, Mayet, of Lyons, have made numerous researches to elucidate this problem; but they have given us no positive information, for their experiments were made with blood drawn from the vessels, and there is nothing to prove that the modifications in the form of the corpuscles, which these writers have described as being produced under the local action of medicaments, ever take place in the living subject. For my part, I am inclined to believe that, if we except the blood poisons, the principal medicaments have little or no action on the red corpuscles or leucocytes. Take any animal, inject under its skin morphia, atropia, and most of the alkaloids, examine the blood, before, during and after the experiment, and it will be impossible for you to recognize with the microscope the least alteration in the globules of the blood.

Fonssagrives believes that the globules charge themselves like sponges with medicinal substances, and that on arriving at the extremity of the capillary network they express into the serum the medicinal principle, in such a manner as to cause it to penetrate to the inmost recesses of the tissues. This is an hypothesis which has no inductive evidence in its favor, and it is more probable that the blood plasma alone serves as vehicle to medicines.

Be it understood that in this discussion I exclude those medicaments which, in depriving the red corpuscles of their respiratory power, despoil them also of their physiological function. You are all familiar with the interesting researches of Claude Bernard on the oxide of carbon.* We have here some interesting facts from a toxicological point of view, but which have no direct bearing on the therapeutic action of medicinal substances generally. I except, however, alcohol. I believe, and I insist upon it, that it is in depriving the globules of their oxygen that alcohol possesses antithermic properties.

There are other medicaments which act on the

[*The hæmoglobin of the corpuscles has such an affinity for the carbon monoxide that the latter drives out all the oxygen and takes its place, forming a stable compound to the detriment of the organic combustions on which the vital processes depend. The globules no longer having the power of absorbing oxygen the animal on which the experiment is made o breathing the vapor of oxide of carbon, speedily dies yxiated.]

blood corpuscles, either in destroying them, or augmenting their number. I will revert to them when I come to speak of the action of mercury and of iron in syphilis and anæmia. The problem of their action is a difficult one to solve, for we are still ignorant, as physiologists, of the real origin of the red corpuscles. The labors of Hayem have shown that these corpuscles result from the evolution of the hæmatoblasts, but we do not know from whence the hæmatoblasts come. Is their source the marrow of bones, as the Italian and German schools teach? Do they come from the lymphatics, as Hayem supposes? We have only hypotheses to enlighten us, and this is why we cannot tell how the aglobular and hyperglobular medicaments act (those that diminish and those that increase the blood globules), and whether they produce their destructive or reconstituent effect in the blood itself, or in the hæmatopoietic organs.

But in order to understand this special action on the blood corpuscles, therapeutics is to-day in possession of very exact and very ingenious processes, which enable us to estimate with a considerable degree of accuracy, the number of globules in men and in animals, and as these processes are very easy of execution, everybody ought to be able to put them in practice. The most simple apparatus and the one the most in use is that of Hayem, which has replaced that of Malassez.

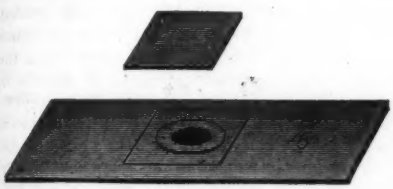

FIG. 8.

This hæmatimeter is composed of a microscope to which is adapted an eye-piece micrometer destined to project on the glass slide where the examination of the blood is to be made, the image of a square measuring one-fifth of a millimetre on each side, and divided into sixteen parts. The glass slide has a ring one-fifth millimetre in depth cemented to its upper surface; it is, of course, necessary that under the covering glass there shall be a stratum of the blood to be examined of equal depth everywhere. (Fig. 8.)

Then you have two graduated pipettes. One is furnished with a capillary gutta percha tube (fig. 9, A). You prick with a pin the end of the finger, and immediately aspirate with this pipette two cubic millimeters of blood. With the other pipette (fig. 9, B), you take up half a cubic centimeter of artificial serum.* This serum you place in the little test tube C, and in this serum you deposit the drop of blood which you have just taken. By repeated aspirations in this mixture of artificial serum and blood you clean your pipette, then after a homogeneous mixture has been effected by means of your glass spatula, you take up one drop on the end of your pipette and put it in the cell on the glass slide.

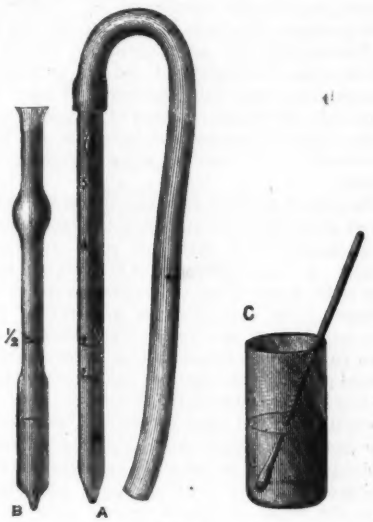

FIG. 9.

When you apply your eye to the eye-piece and survey the microscopic field you will have an appearance before you like that of the following figure (fig. 10) and you will understand how easy it is to count the number of globules. As will be seen, each of the squares is divided in the middle by a bar, which is alternately horizontal and vertical. The globules which are astride the lines which bound the great square, are to be counted apart, and the whole number divided by two before adding to the sum total.

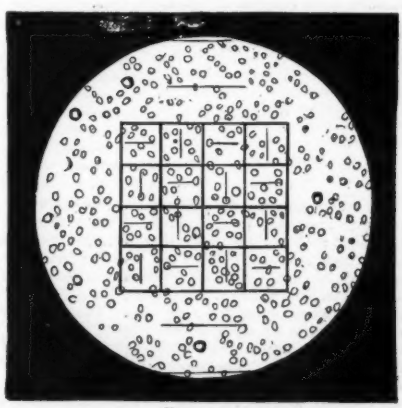

FIG. 10.

A very simple calculation, or what is more handy still, the examination of a table constructed for this purpose, will enable you, when once you have determined the number of globules in the square, to know the whole number of globules in a cubic millimeter.*

*This serum is made according to Hayem's formula as follows:

R	Chloridi sodii	1.00 gr.
	Sodii sulphatis	5.00 gr.
	Bichlorid. hydrarg	0.50 gr.
	Aquæ dest	200.00 gr.

M. This liquid serves for the enumeration of the globules in man.

*The proportion of blood to artificial serum in the mixture is ascertained to be as 1 to 248. A cube with sides 1 millimetre will contain 125 cubes of one-fifth millimetre. To find out the number of globules in one cubic millimetre of blood, multiply the whole number counted in the square of one-fifth millimetre depth, by 125x248, that is, by 31,000.

If from a medicinal point of view (as having a bearing on the action of medicaments) it is often important to know the number of the globules, it is more necessary to be able to ascertain the quality of the hæmoglobin, the active principle of the corpuscles. In the treatment of anæmia such qualitative analysis is especially necessary. I shall leave to one side the chemical method of dosage of hæmoglobin, which is tedious and laborious, and briefly describe the clinical method, which is comparatively simple.

The clinical methods are quite numerous and are almost all based on the chromometric examination of the hæmoglobin. I shall only refer to Hayem's method. In the employment of this test you have a glass slide, prepared for the purpose, with two cells, separated from each other by a partition. These cells contain just two cubic centimeters of water. Then you require a little card board with a series of colored papers of various tints, each one corresponding to a given number of red globules.* You place an equal quantity of water in both cells, and then with your pipette you take up two to four cubic millimetres of blood and put it in one of the cells, the other containing only water. Then you pass, one after another, the series of colored papers under the cell which contains only the water and take note when the two tints (that from the cells containing the blood, and that from the cell under which you have the colored paper) are alike. You have then, thanks to the table which I have given you (and here you must be careful to divide the whole by the number of cubic millimetres which you have introduced), you have then before you the richness of the blood in hæmoglobine. A very simple calculation will enable you to estimate when once you know the number of the globules, the value of these in healthy globules.†

Behold then the physician armed with two clinical methods which demand little or no apprenticeship, and which are therefore available by all; rapid methods and which require for their execution only a drop of blood. Remember always that these two procedures should go hand in hand and that a therapeutic result based simply on the enumeration of the globules is of very little value for the reason that in order to appreciate the globular richness of the blood it is necessary not merely to know the number of the globules, but also their character, as determined by comparisons with blood that is perfectly healthy.

Let us return to the subject with which we were occupied before this digression. I have told you that the blood serves as a vehicle for medicinal substances. Whether they undergo absorption by the pulmonary mucous membrane, by the stomach or by the skin, they reach in a short time the left ventricle of the heart from whence they are sent forth to different points of the economy. In my lecture on the lungs form a therapeutic point of view,* I stated the circumstances which explain the greater or less rapidity of action of the medicament, showing you that this results from the time it takes the medicinal principle to reach the left ventricle.

In order to render this action more speedy, it has been proposed to make the medicament enter the circulation directly, and intra-venous injections have been recommended. This is a deplorable procedure which should only be mentioned to be condemned, even from the standpoint of experimental therapeutics; in fact any results obtained in animals from such experiments are altogether untrustworthy.

In fact we have here superadded to the natural effect of the medicine a direct action on the blood which considerably modifies the symptoms which we observe. When we introduce a medicament by the digestive passages, by the skin or by the lungs, this medicament undergoes in some part of its transit between the point of absorption and the venous network, intimate modifications which for the most part escape us, and which enable it to traverse without danger the blood current. Is it the same when we mingle directly the medicinal solution with the blood

*This is Hayem's scale with the value in healthy blood globules of the different chromometric tints:

Tint	No. 1	8,649,000	globules.
"	" 2	9,720,125	"
"	" 3	10,811,260	"
"	" 4	11,892,375	"
"	" 5	12,973,500	"
"	" 6	14,054,625	"
"	" 7	15,135,750	"
"	" 8	10,216,875	"
"	" 9	17,298,000	"
"	" 10	18,379,125	"

[†It will be seen that the chromometer consists of two parts; the first a glass slide in the middle of which are two cells, capable of holding rather more than 500 cubic millimetres of liquid; these cells are fixed side by side. Into one of these troughs a mixture of 500 cubic millimetres of water, with from 2 to 10 cubic millimetres of blood is introduced, into its fellow an equal volume of distilled water only. The second portion of the apparatus is a series of small round discs of tinted paper, ten in number, each of which is attached to the centre of a slip of white card board. The color of these discs is made exactly to match with that of a series of standard mixtures of blood and distilled water, every one of which contains a known number of normal red globules. We place our glass slide over one of these discs in such a way as to bring the latter exactly under the trough filled with pure water; we then seem to have two solutions of hæmoglobin side by side. When the tints are accurately matched, the optical illusion is well nigh perfect, and it is almost impossible to tell which trough contains the blood mixture, and which the water alone.

At this stage of the process we have ascertained that a mixture of 500 cubic millimetres of distilled water with a measured volume of blood containing a known number of red corpusles per cubic millimetre (for chromometry is always preceded by numeration) corresponds in depth of tint to a mixture of the same quantity of water with a known number of normal discs. The latter figure is obtained from a table supplied with the chromometer. Supposing the corpuscles of the blood under examination to be functionally equivalent to normal corpuscles *i. e.* contain an equal proportion of hæmoglobin, the number of those in the mixture will be equal to the number represented by the colored disc, and their ratio will equal 1. This figure represents the functional value of a normal corpuscle. Supposing the corpuscles under examination to be impoverished, they will yield a tint equivalent to that furnished by a smaller number of normal corpuscles; the ratio between the figures will be fractional. An example will make the mode of calculation plain: Let us take a specimen of blood containing 3,400,000 red corpuscles per cubic millimetre (the normal average is usually put at 5,000,000). We introduce 6 cubic millimetres of this blood, mixed with 500 cubic millimetres of water into one trough, and find that the tint exactly matches that of the disc marked 2. On referenc to the table, we find that the disc represents the coloring power of 9,730,125 normal corpuscles. Accordingly we conclude that 3,400,000 x 6 or 20,400,000 of our corpuscles only contain as much hæmoglobin as 9,730,125 normal globules. The functional value of each of our corpuscles, referred to unity as a standard, will therefore be represented by the fraction

$$\frac{9,730,125}{20,400,000} = 0.48.$$

The normal average of corpuscles per cubic millimetre is usually put at 5,000,000 in conformity with Welcker's estimate. (Contribution to Clinical Hæmometry, by Baxter & Willcocks. London Lancet, June, 1880. Am. Reprint).—TRANS.]

*Vol. II. Lecture—The Lungs from a Therapeutic Standpoint.

in the veins? Assuredly not, and this is so true that when in administering hypodermic injections, you carelessly make the injection in a vein, you see supervene very grave accidents, however small the dose may bave been.

I am well aware that attempts have been made to bring certain of these intravenous injections into general practice, and we have seen Oré, of Bordeaux, propose to substitute for chloroform anæsthesia intravenous injections of chloral. The accidents which followed these injections caused them to be promptly abandoned, and even in cases of hydrophobia where they have been employed by Bucquoi, nobody now-a-days think of using them.

It is of course understood that this absolute condemnation of intravenous injections extends only to medicinal substances. It is not so with the question of supplying to the blood or to the economy nutritive elements which are wanting, and transfusion within certain limits is a justifiable and thoroughly rational therapeutic means.

Transfusion originated in experimental therapeutics. This is a fact worthy of note, especially if you take into account the epoch in which it was first practiced. Indeed, before Denis, of Montpellier, the 15th of June, 1667, caused this operation to be performed by Emmerez, transfusing the blood of a lamb into a male patient, Lower, then King, had the year preceding shown that it was possible to transfuse the blood of one animal into another animal of the same or of a different species without any injurious results; from this date till the commencement of the present century transfusion like every other new therapeutic measure, was much abused, and it was imagined that all diseases including insanity could be cured by it, and it became even necessary to pass an act of parliament to oppose the misuse of the operation.*

From 1815 to 1830 transfusion issued from the oblivion into which it had fallen; works appeared by Hufeland, De Graefe, De Boer, by Blundell and Bischoff especially, and the action of defibrinated blood was studied. Then transfusion fell again into neglect, to be taken up a few years ago at the point where it started, and while Oré, Gessellius, Hasse and Albins advise the direct introduction of lamb's blood into human veins, Landois, Panum, Ponfick, Albertoni, Beel and Kuster have pointed out the dangers of this practice.*

To-day, notwithstanding the efforts made by Roussel to perfect the instrumental apparatus (which he certainly has modified in a happy manner) transfusion is an operation exceptionally performed, and there certainly are among you few that have ever been present at the operation.

Nevertheless this question of transfusion is one of the most important, and the recent researches of Hayem have enabled us to elucidate many obscure points. I shall then rapidly review this interesting topic, and I shall especially dwell on the three following points: the kind of blood which we ought to employ, the operative procedure which we should make use of, and the indications and contra-indications of transfusion. Struck by the inconveniences and difficulties which often arise in the transfusion of human blood, the proper person from whom to obtain the blood not being always at hand; guided moreover by theoretical considerations which require that absolutely healthy blood should be used in the operation, certain physicians, in the early history of transfusion, made use of the blood of the lamb. You have seen that this practice was revived

*Transfusion is of very ancient date having been practiced centuries before the Christian era. It was not, however, till about the middle of the 17th century (1666) that the first scientific treatise on the subject appeared. It was the work of Lower, who put the artery of one dog in communication with the vein of another dog. King modified the operative procedure of Lower, and using animals as the subjects of his experiments, made the transfusion from vein to vein, and practiced tranfusion between animals of different species, as the calf and the sheep. In the same epoch Denis, of Montpellier, taking the previous experiments for his guide, caused transfusion to be performed on a man by Emmerez, June 15th, 1667, making use for this purpose of the blood of a lamb. History has preserved the report of this case. The patient was a young man of sixteen attacked by a fever with stupor, and which was believed to be typhoid fever; he had been bled twenty times. Finally 90 grammes were taken from him, and a transfusion was made of 270 grammes (9 fluidounces) of arterial blood from a lamb; the patient got well.

Lower and King shortly after reproduced in human subjects the therapeutic experiment of Denis and the operation from henceforth became very famous. In Italy about the same date (1668) transfusion was practiced from man to man by Fracassati, Riva and Manfridi.

It was proposed by these transfusions to modify the character of the blood, which was thought to be altered, and this method was applied to a great number of affections, and particularly to madness. The operation speedily became abused and leagues were formed against it, and the intervention of legislation was sought; by an act of parliament the practice was forbidden. Thus transfusion fell into disrepute and almost complete oblivion till the year 1825. Nevertheless in 1788 there appeared the work of a physician of Modène, Michel Rosa, who had made numerous experiments on animals, transfusing the blood of one animal into an animal of another species.

In 1815 this question was agitated again, and James Blundell counselled to employ a syringe to take up the blood and inject in the veins. Dieffenbach, in 1828, treats of two kinds of transfusions; immediate transfusion, when the artery of one animal communicates with the vein of another animal, and mediate transfusion, when a syringe is used. He was the first to recommend the use of defibrinated blood. In fine, coming down to our own times, since 1860 this question of transfusion has been taken up anew, and not only has the manual procedure been perfected, but the numerous physiological problems presented by the operation have been studied, experimentally and physiologically.

*Gessellius, in 1873, reverted to the procedure of Denis, of Montpellier, counselling to employ the blood of a lamb, not defibrinated. Hasse proposed and practiced the direct inoculation of lamb's blood, connecting the artery of the lamb with the vein of the man He describes minutely the operative procedure. Oré is one of the partisans of the transfusion of lamb's blood. He pretends that such accidents as have been reported from the transfusion into the human subject of the blood of different animals are due to the too great quantity of blood introduced, or to the too great rapidity of the operation. He claims that the blood of animals is preferable to human blood for transfusion, and counsels transfusion in all desperate cases. At the same time, in the case of transfusion performed by Oré the individual succumbed, although only 35 grammes (or about an ounce) of blood had been injected; the death was by asphyxia.

Hasse, of Nordhausen, has practiced the transfusion of the blood of a sheep into the human subject 52 times, and has had but one unsuccessful case.

Among these observations we shall cite the one which had for subject Dr. Redtel, of Cohen, a phthisical patient affected with dysphagia. He was not materially benefited by the transfusion, but at the same time was made no worse by it.

Kuster, of Berlin, has taken a stand against transfusion, and in particular against transfusion of the defibrinated blood of the sheep. He has observed grave accidents after these transfusions.

Brugelmann, of Cologne, on the contrary, affirms that arterial transfusions of lamb's blood, after Hasse's method, give excellent results in phthisis.

Albertoni maintains that the transfused blood of an animal of the same species serves to form new blood, and constitutes a sort of sanguineous grafting. According to this authority the transfused blood of an animal of a different species is injurious, and such blood has toxic effects.

in France latterly by Oré, and in Germany by Gesellius and Hasse, in Italy by Albini and in America by Carl Proegler, but these transfusions were not always followed by happy results. There have been observed to follow them, fever, hæmaturia, albuminuria and even death. The cause of these accidents has been indicated to us by the curious experiments of Landois and Ponfick, which have shown us the solvent action of the blood of animals of different species, the one on the other; and while Albertoni and Landois described the embolic infarctions noted at the autopsy, infarctions produced by the agglomeration of heterogeneous corpuscles, Biel gave us a chemical explanation of the toxic action of the blood of animals of different species, so that to-day this question seems to be definitely settled, and the transfusion of blood from animals to the human subject ought to be completely abandoned. Human blood, then, is the only proper material for transfusion.*

Here a discussion quite as important has arisen between the partisans of whole blood and those of defibrinated blood, and this question has been especially the subject of labors by Professor Hayem. Some as Claude Bernard, Magendie, Jullien, in France, Mittler, Demme and Madier, in Germany, have maintained that by defibrination you destroy the vital properties of blood.†

Others on the contrary like Vorm Muller, Landois, De Christoforis, Casse and Hayem, have shown that defibrinated blood is not attended with the risk of embolism and the grave danger therefrom resulting, and that it possesses all the revivifying properties of whole blood, and promotes reconstruction of the blood when used in transfusion. Defibrinated blood may then be employed in transfusion, but in my judgment whole blood is preferable, especially if this transfusion be made without the possibility of admixture with air. If defibrinated blood does not "graft" well, whole blood on the contrary may be utilized in great part, and the experiments made by means of the apparatus of Roussel with whole blood show that the cipher of globules rises immediately after the operation, and that this augmentation is maintained for several days.

It is well understood that when the question of the quality of the blood to be used is once decided, the transfusion is to be made in the veins and not in the arteries, although certain authorities as Hüter, Petrognio and Wing claim good results in transfusing from artery to artery, alleging in favor of transfusing in this way that you thus escape the danger of pulmonary infarctions and especially the entry of air in the veins. By this method, however, you run the risk of obliterating the arteries; a greater pressure is demanded to cause the transfused blood to enter the circulation, and grave local disorders are likely to ensue.

Progress in the manual procedure of transfusion has been especially in the direction of improvements in the instrumental apparatus, and to the pumps of Moncocq and Belina (more or less perfected by Charrière, Collin and Matthieu), which draw up the blood from vessels in which it has been exposed to the air to inject it in the veins of the patient, apparatuses have been substituted which enable us to transfer the blood from one party to the other without any exposure to the air. To the simple guttapercha tube, which Postempski and Luciani placed between the veins of the donor and the receiver, various agents of propulsion have been appended, and it is thus that are constructed the transfusion instruments of Schliep, Neudorfer and Roussel. The latter is the most complete, and I may safely say it is the one most in use at the present day. I show you here one of Roussel's instruments. It consists of a soft tube of caoutchouc, with an aspirating and force-pump, P, having a capacity of just ten grammes, This tube terminates at one extremity by two bifurcations, A and A'. An ingenious stopcock C enables us to send blood or water at pleasure into one or the other of these bifurcations. The most important part, however, is the cupping apparatus I V, which enables us to practice venesection with the lancet I, without the possibility of contact with the external air. This lancet terminates in a cutting-blade, like an inverted V. This cupping machine is placed over the vein of the donor of

*Ponfick has made numerous experiments on transfusions. He has arrived at this conclusion that the foreign blood can be of no utility; it is even dangerous, he says, for it is immediately destroyed and the products of its destruction may have a toxic action.

Landois has studied the action of the blood of different animals when transfusion is made from one species to another. He has injected the blood of mammals into the veins of frogs, the blood of hares into dogs, of dogs into cats, etc. He has shown that according to the animal experimented on, the globules injected are more or less rapidly dissolved. Dog's serum has the greatest solvent power; hare's is the least active. The globules injected present a variable resistance according to the species; those of the dog and cat are very refractory, those of the hare dissolve rapidly, and when injected in a dog they disappear in a few minutes, and hæmoglobinuria, lasting several minutes, ensues. The globules of the animal under experimentation also undergo a certain solution. Thus the blood of a dog injected in a hare causes dissolution of the globules of the latter.

Landois in a later work takes a positive stand against the transfusion into the veins of a human subject of animal blood, and explains the accidents which follow as resulting from embolic obstructions from the agglomeration of heterogeneous globules.

According to Biel, sheep's blood is rich in alkaline earthy carbonates and carbonate of soda, and when introduced into the blood of a man, it precipitates the earthy phosphates, causing embolisms.

†Magendie after bleeding animals and injecting their own defibrinated blood always observed fatal accidents, and hence he opposed the defibrination of blood. Claude Bernard, Behier, and Jullien who considered this operation as unphysiological, have also maintained that defibrinated blood has lost its vital properties. This opinion has been supported by Mittler, Demme, Madier and Roussel. On the other hand Vorm Muller who has made many experiments with defibrinated blood, counselled this defibrination as rendering the operation easier, the oxygenation of the blood more prompt, and as being opposed to the embolic accidents which supervene in consequence of the presence of clots. Casse maintains a similar opinion. On his part Landois has shown that whipping (to remove the fibrine) does not destroy but a small quantity of globules, and Christoforis affirms that the globules all remain intact despite the whipping. Hayem has repeated all these experiments and he has shown that from an experimental point of view it is necessary to make a distinction between defibrinated injections made with an animal's own blood, and those made with the blood of an animal of the same species. The former speedily entail diminution of the globules and hæmatoblasts; injections made with the defibrinated blood of an animal of the same species energize the process of blood renovation, and the hæmatoblasts are observed to multiply prodigiously. (Jullien, Thesè de Paris, 1875; Landois, on Transfusion of Blood, Leipzig, 1875; Behier, Revue Scientifique, 1874; Vorm Muller, Transfusion und Plethora, etc., Christiana, 1875; Casse, on Transfusion of Blood, 1874; De Christoforis, on Transfusion, etc., Ann. Univ. di Medecin e Chir., Vol. 233-234, 1875; Roussel, on Transfusion, Arch. Gen. de Med., 1876.)

blood; the ball B is employed to exhaust the air, and the bell M, with the stop-cock C, is plunged into warm water.

You will readily understand the way in which this apparatus is managed. The vein of the patient is first dissected out and well exposed. Then the cup is applied to the arm of the person who furnishes the blood, and right on a level with the point where the bleeding is to be practised a stream of warm water is made to traverse the entire apparatus. A V-shaped incision is made in the exposed vein of the patient, and one of the canulas of the transfuser, full of warm water, is introduced and fastened into the vein; the communication is closed, a smart tap is given to the lancet I, the pump is worked, and presently there is seen to flow by the distal extremity of

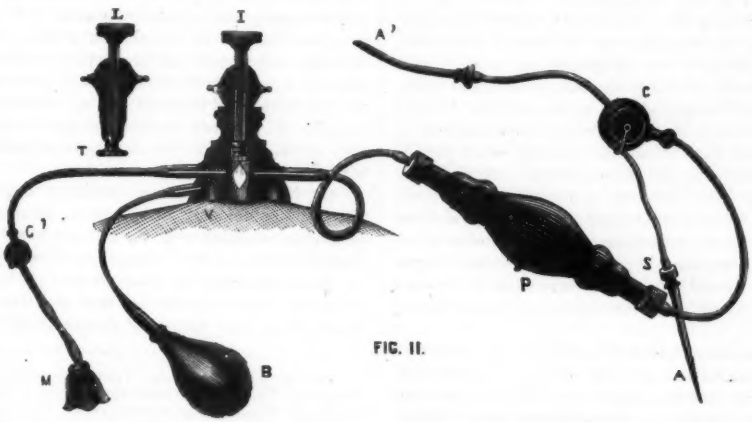

FIG. II.

the apparatus, first blood mingled with water, then pure blood. At this moment you turn the stop-cock C, and the blood passes freely from one arm to the other.*

As to the quantity of blood to be transfused, this is very variable; it is impossible to fix in advance the minimum figure. What we know is, that, from an experimental standpoint (as the curious experiments of Eulenbourg and Landois have shown), one may augment the mass of blood from 80 to 83 per cent. in animals without producing any accident, and that in clinical practice it suffices, in cases of extreme anæmia, to transfuse very small quantities to restore the cardiac pulsations and bring the patient back to life.

Transfusion is an operation which may be attended with accidents. Thanks to the very perfect apparatus of Roussel, we may avoid the gravest of these accidents, that is, the introduction of air into the veins and the production of emboli. There are, however, other accidents which are not so easily escaped. I refer particularly to the lesions of the vein in which is placed the transfusion-canula. This is one of the most formidable parts of the operation, and, notwithstanding the improvements in the canula devised by Istomin and Welikig, phlebitis often occurs as a sequel of transfusion. Sometimes, moreover, it happens that the blood, instead of penetrating the vein, escapes into the cellular tissue, and produces thromboses and serious displacements and lesions. These

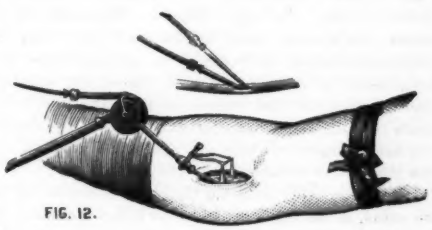

FIG. 12.

are, however, accidents that belong to every operation on the circulatory system, and they ought not to lead us to abandon transfusion. It is necessary, moreover, to bear in mind that there almost always comes on, after transfusion, a febrile paroxysm, characterized by chills, elevated temperature and profuse perspiration.

What results may you obtain from transfusion? To-day, thanks to the decisive experiments of Hayem, it may be affirmed, first, that defibrinated

* Roussel makes many stages in the operation:

First Stage—Get ready the vein of the patient.

Second Stage—Fix a firm ligature above the elbow of the donor of blood; place the exhausting cup over the projecting vein, and arrange the porte-lancet, whose cutting blade must be regulated according to the depth you wish to penetrate.

Third Stage—Pump up the water in order to clear the apparatus of air; introduce the afferent canula, full of water, into the vein of the patient; close this canula; close the water aspirator, (stop cock C1.)

Fourth Stage—Give a smart tap on the head of the lancet; the blood drives out the water, which presents itself, red, at the exit tube; close the exit tube, and open the afferent canula.

Fifth Stage—Transfuse slowly, ten grammes at a time, five or six times a minute, till a sufficient quantity has passed.

The dressing is simple enough, a figure-of-8 bandage being applied to the two arms.

Roussel always takes pains, before the operation, to ischæmiate the hand and forearm of the patient by a Martin bandage, and he afterwards puts a tight band around the middle of the forearm. (The bands above and below the elbow render the vein turgid, and prevent escape of much blood during adaptation of the canula.) He hooks up and opens the vein with scissors, making a flap like the letter V, then introduces and fastens the canula. This is kept in position by a *serre fine*. The two bands are removed the moment the transfusion commences.

From a table published by Roussel, brought down to May, 1883, we find that he has performed transfusion 62 times; 33 of these were in surgical cases (traumatic, puerperal, chronic hæmorrhages, suppurations, pyæmia). Of these 33 cases, 24 are reported as successes, 7 as unsuccessful, and 2 as doubtful. Twenty-nine cases out of the 62 were medical (leucocythæmia, chlorosis, inanition from dementia and other causes, cachexia from grave fevers, and blood poisoning). Of these 29, 13 are reported as successes, 10 as unsuccessful, and 6 as doubtful.

What results may you obtain from transfusion? To-day, thanks to the decisive experiments of Hayem, it may be affirmed, first, that defibrinated

blood introduced into the organism, if it does not "graft" with the blood of the individual, nevertheless favors the renewal of the blood; secondly, that whole blood may be utilized in part, if taken from an animal of the same species.

These scientific data enable us to judge the indications and contraindications of transfusion. It is indicated in all cases of extreme anæmia, except where the economy is still capable of aiding in the renovation of the sanguineous fluid. Thus, according to Kuster, we should resort to transfusion in anæmia from hæmorrhages, or other wasting discharges, in acute affections which threaten death by exhaustion, in curable affections of the digestive system, and he adds (though I do not agree with him), in septicæmia, and pyæmia. It is contraindicated in all cases where there exists in the organism an incurable lesion, directly affecting the constitution of the blood, and preventing its reproduction. I believe, moreover, that it is useless, if not dangerous, in cases of profound cachexia, produced by cancer, advanced tuberculosis, and disorganizations of the kidneys. I would also not advise it in the anæmias called essential, to which I shall refer in another lecture, when the organism, smitten in the hæmatopoietic centres themselves, finds itself impotent to reconstruct the blood globules. On the other hand, in such cases as those mentioned above, where the patient is almost moribund from traumatic or post partum hæmorrhages, and from fibroid tumors, epistaxis, etc., I would resort to it, all other therapeutic resources having failed.

You understand that I do not favor transfusion in general diseases and in most cases of blood-poisoning, such as pyæmia, septicæmia, and all affections where microbes play a preponderant part. I make only one exception among the blood empoisonments; it is that produced by carbonic acid. It is easy to comprehend how, in carbonic-acid poisoning, mortal accidents may be averted by substituting living globules for globules smitten with death, and by favoring the renovation of these sanguineous elements. A great number of facts of this kind have been reported where, indeed, complete restoration has rarely been noted by transfusion, but where temporary amelioration has generally been obtained, as Traube, Wagner, Moller, Kuhn, Belfrage, Maurice Raynaud have shown. In a word, save in this particular case of blood intoxication, one cannot in general hope by transfusion to substitute healthy blood for vitiated blood, and this for the reason, to-day experimentally made certain, that whatever may be the operative procedure employed, only an incomplete grafting of one blood with another blood can be obtained.

Latterly in order to avoid the introduction of air in the veins, it has been proposed to inject the blood in the cellular tissue, or in a serous cavity, as the peritoneal; I avow that such procedures seem to me quite inapplicable to man. While recognizing the fact that subcutaneous injections of blood generally undergo in the cellular tissue slow and progressive absoption, it seems to me difficult to believe that this absorption can be of any utility in the renovation of the blood, and I am of the opinion of Casse that these injections void of all therapeutic value, determine often grave local accidents.*

*Casse, on the Value of Subcutaneous Injection of Blood, Bull. de l. Acad. Med., Belgique, July, 1879.

If we may rely on the experiments of Obolinski, Nikolski, Bizzozero and Golgi, intra-peritoneal injections of blood have in store a future of some promise. These experimenters have in fact always remarked in animals a rapid absorption of bood injected into the peritoneal cavity, corresponding to an augmentation in the number of globules and their richness in hæmoglobin, but while admitting these facts as demonstrated, it seems to me difficult and impracticable to apply a procedure of this kind, as a therapeutical resource, to a human patient, especially when you reflect that for venous transfusion you are substituting the dangers of peritonitis, quite as serious as those of phlebitis.*

It is often difficult in transfusion to find the requisite blood and in sufficient quantity for the performance of this operation, therefore of late years it has been proposed to substitute milk for blood. This is a modification of transfusion which Hodder, of Toronto, had already put in practice in 1850 in a case of cholera, and which Howe, of New York employed in 1877 in cases of phthisis. It is, however, especially Dr. T. Gaillard Thomas who gave popularity to this method, which he considers superior to the transfusion of blood.†

One cannot protest too strongly against such affirmations; not only are injections of milk useless as far as renovation of the blood is concerned, but they are injurious and dangerous. The experiments of Brown-Sequard, of Laborde and of Culcerq are absolutely demonstrative of this, and the cases of death which have happened during these injections

*Vide, Bizozzero and Golgi, Transfusion of Blood into the Peritoneal Cavity, (L. Obsérvatore, Nov. 4, 1879, p. 689). Obolinski, Experimental Researches on Peritoneal Transfusion, (Centralblatt f. Chir. No. 19, 1880). Nikolski, Influence exerted by Transfusion of Blood into the Peritoneal cavity, on the number of blood corpuscles, and the quantity of hæmoglobin contained in the blood in circulation, (Wratsch, 1880, No. 4.)

†Hodder, of Toronto, in 1850 performed the intra venous injection of milk in a patient affected with cholera. Howe, of New York, in 1877 practiced these injections in a case of phthisis in the last stage; he injected 200 grammes (over six ounces) of goat's milk into the cephalic vein, Dr. T. Gaillard Thomas has practiced the intravenous milk injections twelve times, and has had but one case in which any accidents occurred. The milk should be drawn just at the moment of the operation, and not more than eight ounces should be injected at one time. These injections are especially applicable to cases of grave hemorrhage, Asiatic cholera, typhoid fever and pernicious anæmia. Thomas considers these injections infinitely easier of administration than those of blood. Wm. Pepper has also performed these transfusions of milk in two cases, In one of these the patient died suddenly during the third injection. He concludes, however, that these injections of milk give results as satisfying as those of blood. He does not think that there is any danger of embolism. Brinton is of the same opinion. Brown-Sequard considers these lacteal transfusions as of considerable utility. In his estimation the morphological constitution of the figured elements of the blood plays a secondary rôle in the phenomena of transfusion. Culcerq has experimented on animals with the intravenous injections of milk. He has shown that these injections may be often dangerous, and that the accidents observed are to be attributed to fatty embolisms. T. Gaillard Thomas: "Intravenous injections of milk as a substitute for the transfusion of blood," N. Y. Med. Jour., May, 1878. Bullard: "A successful case of intravenous injection of milk," N. Y. Med. Jour., April, 1878. Pepper: "On the intravenous injection of milk in functional and organic anæmias." Med. Record (N. Y.), Nov. 16, 1878. Brinton in N. Y. Med. Record, Nov. 2, 1878. Howe in the Medical Record, Dec. 7, 1878. Brown-Sequard: "On transfusion of milk in the human subject," Gazette Med. de Paris No. 43, 1878. Culcerq: "Experiments on the intra venous injections of milk," These de Paris, 1879.

confirm in every respect the experimental data, showing us that milk corpuscles act in these cases by determining emboli, which are generally fatal.

In fine, it has been proposed in certain cases to inject into the blood principles which are lacking in that fluid. Thus, in cholera, where the symptoms of algidity are produced by the elimination of serum in great quantity in the stools, injections of water and of serum have been made. I myself put in practice this method in the epidemic of cholera which I was enabled to observe in 1872—1873 at the Hospital Beaujon, thus renewing a practice which was employed during the first outbreak of cholera in Europe in 1830 by Jachnichen, of Moscow, and in 1832 by Latta, of Scotland, and by Magendie the same year in France.*

Less successful than Lorain, who, during the epidemic of 1868, obtained in this very hospital (St. Antoine) a signal cure from these intra-venous injections of saline solutions, I have been able to realize only a temporary amelioration, and I believe that this results from the difficulty which we meet with in the construction of an artificial serum. In fact, in spite of the complex formula of this solution which I used, I could not prevent the dissolution of the blood globules, nevertheless I persist in believing that in the final periods of cholera these injections may render service, and even result in recovery. Quite recently Jennings has taken up these intravenous injections of saline solutions and has endeavored to bring them into general use.†

*Saline solution of Dujardin-Beaumetz for intravenous injection in cholera, founded on the analysis of blood serum by Dumas:

Distilled water	1000.00 gr.
Chloride of sodium	3.10 gr.
Phosphate of sodium	0.50 gr.
Carbonate of sodium	
Sulphate of potassium	
Lactate of sodium	q. s. 1.00 gr.

In making these injections all that is necessary is a syphon, terminated by a fine metallic tube which is introduced into the vein.

(Dujardin-Beaumetz: "Intravenous injections of water and saline solutions in the treatment of the period of algidity of cholera." Union Medicalé, 1873.)

†O. Jennings, On Transfusion, London, 1883.

[Recently the subject of intravenous saline injections has been brought prominently to notice by Szuman, in Berliner Klin. Woch., and Bischoff (Bull. Gen. de Ther. t cv, p. 190 q. v.) Szuman's case was that of a boy æt 15, who had sustained a compound fracture of the humerus, and fractures of the right femur and tibia. When seen he was in a state of collapse, the face, lips and conjunctiva bloodless, and he was almost pulseless. Resection of the humerus was performed; the collapse became so great that artificial respiration was resorted to; food and stimulants could not be given by the mouth on account of vomiting. As the patient seemed to be dying of cerebral anæmia, intravenous injection of saline fluid was made—℥ iss common salt, gr. xv of carbonate soda in ℥xxxivss of distilled water. The saline solution was injected by means of a simple extemporized apparatus of gutta percha, with a syringe and canula. After ℥xxiv were injected the pulse fell from 144 to 112 and he began to complain of feeling cold; the injection was discontinued and the ligature removed from the vein. From this time he steadily improved and finally completely recovered.—Med. News, Aug. 18th, 1883.

The case of Dr. Bischoff's was one of post partum hæmorrhage with complete collapse. An injection of 200 grammes of a six per cent. solution of common salt was made into the peripheral extremity of the divided radial artery. The solution was rendered alkaline by the addition of two drops liquor potassæ. Amelioration was immediate and recovery complete. It would seem from these experiments that the benefit derived from transfusion is largely, if not chiefly, due to the restoration to the circulation of its *quantitative* equilibrium, and that weak saline solutions are best for this purpose.—Trans.]

Such are the considerations which I desired to present *àpropos* of the blood from a therapeutic standpoint, but I have only unfolded a part of my subject in this lecture. It remains to examine what happens when blood is removed from the economy, that is, to study the rôle of blood-letting in therapeutics, which will be the subject of my next lecture.

Eserine.

By C. H. Tangeman, M. D.,* Cincinnati, O.

ESERINE is the active principle of calabar bean. Calabar bean, first brought to the notice of the profession by Dr. Daniels, in a paper read before the Ethnological Society of Edinburg, has attracted considerable attention of late. It has long been known to contain certain poisonous substances, and was called the ordeal bean by the negroes of Western Africa. If when given in the regulation dose the accused vomits, the fact determines his innocence; if he dies he is guilty. To Prof. Fraser,† who investigated the subject, belongs great credit, and to him we owe the exact knowledge now in our possession of the antagonism between physostigma and atropia. Prof. Roberts Bartholow‡ has given to the profession some valuable information in the same field.

As an antagonist to atropia, physostigma is quite valuable, and a number of well-authenticated cases have been reported where physostigma was given subcutaneously to counteract the effect of a poisonous dose of atropine. This drug as employed by the ophthalmologist at the present time, interests us most. Dr. T. H. Roberts§ found that a preparation of calabar bean applied locally to the eye causes myosis, and a disturbance of accommodation; distant objects become indistinct, seem nearer, and are apparently magnified. The myotic effect of calabar bean is undoubtedly due to the alkaloid, even when administered internally; therefore only the alkaloid is employed by the oculist. There are two preparations, the sulphate and salicylate; the sulphate is obtained by precipating the alkaloid with sulphuric acid from a solution of the hydro-alcoholic extract in ether; the salicylate is made from physostigma; by many it is preferred to the sulphate, claiming that it is a more stable compound. It should be kept in dark-colored vials, well stoppered, and put away in a dark place. When an aqueous or alcoholic solution is made, and exposed to the light for some time, it turns reddish, on account of the absorption of oxygen (so it is claimed.) This is not peculiar to the salicylate alone, but is noticed to a much greater degree in a solution of the sulphate, and when the solution gets very old, it gets very dark-red and murky. The question arises often, does this weaken the action of the drug, or is it more irritating when in this condition? We can positively answer the first question by saying that it does not weaken it any, neither is it probable that the irritation is due to the condition of the solution; an old solution may be cleared up by boiling. The color can be made to disappear entirely by putting in small vials, and storing them away in an ab-

*Assistant to the Chair of Ophthalmology at the Medical College of Ohio.

†An experimental research on the antagonism between the the actions of physostigma and atropine, Edinburg, 1872.

‡Essay on Atropia read before the American Medical Association in 1868.

§Edinburg Medical Journal, 1863.

solutely dark place; but all of this is unnecessary since the color has nothing to do with the efficiency of the remedy, as was supposed at one time. The salicylate is not as powerful, grain for grain, as the sulphate, nor is it as soluble; but as a local application to the eye, a solution of four grains to the ounce is strong enough for all purposes of either preparation. Another method of application to the eye was to impregnate paper by immersing it a number of times in a concentrated tincture of the bean, allowing it to dry after each immersion; the paper was then cut in bits and placed in the lower eye-lids. Discs of gelatine containing a definite quantity of the extract have been used by oculists; but the better way has been found to be a solution of the alkaloid in water, applied by means of a dropper.

What is the effect of eserine on the eye? Eserine does not only act on the pupil by contracting it, but it also acts on accommodation. The effect on accommodation is noticed first, and passes off sooner than the effect on the pupil. The eye in its normal state becomes near-sighted, proving that the action of calabar bean and atropine are exactly antagonistic. Eserine is said to have the power to increase the accommodation of the eye to distances, but it is not this effect nor its myotic effect that makes it so valuable a remedy in ocular therapeutics. To the younger oculist it is an enigma to be told that diseases of the eye had been treated until recently, and by some few skeptics are still treated without the use of eserine. It causes a contraction of blood-vessels, and is therefore indicated in the cases where astringents were prescribed; astringents contract blood-vessels, so will any irritant; any stimulation will cause the muscular fibre of the vessel wall to contract, and diminish the calibre. But what is the secondary effect which follows shortly after? A subsequent dilatation counteracting the good, if any that was produced immediately after the application. It is not necessary here to define inflammation but in every inflammatory process there is a dilatation of the blood vessels and a transudation of serum into the surrounding tissues, on account of the languid circulation of the blood in the capillaries. This condition of things in many diseases of the eye it is very desirable to relieve and in no way can it be better done than by the use of a solution of eserine instilled into the eye. The effect is an immediate one, it does not require a trained eye to see it: an eye that is very red and fiery changes to a normal color, in some cases it amounts almost to a deadly palor, with no objectionable secondary dilatation. If this is the case (and the experiment proving the correctness of the statement is so easily made that every individual can convince himself), of what use are astringents (sul. copper, sul. zinc, nitrate of silver, etc.), in ophthalmic surgery? There are no objections to eserine but there are many to the old plan of treatment; is the pain caused by a local application to the eye not worth our consideration? Who has not seen the waiting rooms of oculists filled with patients, suffering with the most excruciating pains that were caused by "blue stone?" Can any surgeon give the physiological action of the above remedy, that is applied freely, and say why it is better than the use of remedies that are painless? It is claimed by some that eserine is not more efficient than astringents; this is certainly a concession and the objections mentioned to the use of caustics and irritants should certainly cause a decision in favor of a remedy that acts pleasantly to the patient. The question of choice, as between two equally good remedies should be in favor of the more agreeable.

In the treatment of the different forms of conjunctivitis eserine is invaluable. A simple conjunctivitis will frequently require but one application, while the severer forms yield quite rapidly when the cause of the inflammation is removed. The argument that the disease is self-limited and tends to recovery is not of very much influence because the effect is so marked. When the capillaries of the bulbus conjunctiva are engorged and dilated, the action can be studied very nicely; they begin to get smaller and disappear in the course of 10 to 15 minutes. A demonstration of this kind is sufficient to convince the most skeptical mind, though it is not taught by any one that eserine is an infallible remedy in all the different diseases of the eye. It is not at all difficult to understand why the results of two individuals will differ when treating the same disease; a skillful operator can accomplish more in a given case than one who does not understand the indications for the drug nor its action. Knapp is experimenting with astringents trying to find the happy medium where the secondary effect, or dilatation, will not counterbalance the benefit of the drug, or its primary effect. He claims that astringents have been used too strong. The introduction of eserine by Prof. Seely in this country, has caused considerable change in the treatment of corneal disease, and his digression from the well-worn and beaten track caused more than a little criticism; it was not recognized then what changes it would bring about in ophthalmic practice. Does it necessarily follow that we must know the exact mode of action of a drug, before we can determine its effects in certain pathological conditions? Or can we find out how it acts and what its effects are from the results that are obtained when it is used? The latter method is the more satisfactory and at the present time after using eserine for a number of years and in thousands of cases we are ready to substantiate what Prof. Seely has been teaching by judging from the results that are obtained when treatment was properly carried out. Others are beginning to investigate for themselves. Greunning, of New York, writes that he uses eserine to lessen intra-ocular tension, in phlyctenular keratitis and in ulceration of the cornea and that it fully takes the place of paracentesis. In phlyctenular keratitis, a disease that is quite frequent in childhood, it is especially indicated; it contracts at least the vessels that run to the point of irritation and hastens the disappearance of the opacity that is left on the cornea. It is better to use a four-grain solution once a day, than a two-grain solution twice a day; even in the instance of a child 3 or 4 months old, it is not necessary to weaken the solution; one drop of the four-grain solution may be instilled, and, the child turned with the face down in order to prevent the drug from passing into the tear passages; all that should be borne in mind is that it is a powerful remedy and should be employed carefully. In staphyloma of the cornea a cure is sometimes brought about by 5 or 6 instillations of eserine. Would any surgeon at the present time treat a case of that kind with atropine as they were accustomed to do? The patient would undoubtedly fare better if let alone since mydriasis does not prevent prolapse of the iris, on

the contrary the pupil contracts as soon as the aqueous fluid escapes and the effect of the atropine is lost.

In glaucoma it acts admirably, and every general practitioner should have access to the remedy and understand its indications and action sufficiently to tide a case over long enough to consult an oculist, should eserine fail to give relief. A day or two is often of great importance in this disease. Eserine lessens intra-ocular tension, and therefore acts on the same principle that a large iridectomy does. In ordinary cases it fully takes the place of an operation.

Judging from the pathology of diffuse vascular keratitis, where the vascularity of the edge of the cornea is so great that it looks like a bright-red zone of extravasated blood, or in inveterate pannus, where syndectomy or peritomy has been recommended to cut off the blood supply, we have in eserine a remedy that fully acts as a substitute in these operations, since the point aimed at is to control the blood supply. In opacities of the cornea it is of great importance, by lessening intra-ocular tension and putting the eye in such a condition that absorption takes place more rapidly. Opacities of the cornea disappear by absorption. In cases of this class astringents, or rather, irritants, were employed to set up a certain amount of inflammation; but, in order to act satisfactorily, an impossibility had to be overcome, namely, to set up at each treatment only a limited amount of inflammation; if more was done, the application would be injurious instead of beneficial. In this instance, again, eserine has the advantage; the skill of a specialist is not required to use it; a gradation of action does not occur.

Would any one suppose that, if all the above points were true, that the treatment of diseases of the eye would become too much simplified? The sooner we dispossess ourselves of such vague notions the better it will be for us. That eserine is a cure for opacities of the cornea we do not contend, but it certainly puts the parts in the most favorable condition for absorption to take place, whether the process is hastened by other adjuncts or left to nature.

We next come to the use of eserine in iritis, and the statement of its value here will possibly be received with some hesitation or doubt, on account of the action that the drug produces on the pupil. It is not alone a contractor of blood-vessels, but also contracts the pupil. This effect is exactly the reverse of what we want to produce with our remedies in iritis; but it is to be remembered that atropine employed to dilate the pupil, puts the muscular fibres of the iris to rest and quiets the action of the ciliary muscles, and is very much stronger and persistent in its action than is eserine; and next, atropine should be used in a 4-grain solution every 3—4 hours; while eserine, employed in the same strength solution, is applied but once in 24 hours, therefore cannot counteract the effect that we desire from atropine, but its good effects on the eye are readily felt by the patient. It relieves the photophobia, and excessive lachrymation, and generally cuts short the inflammatory attack. We would say that eserine in iritis requires some care and observation to know when and where it is applicable, and it may for some time yet be safer in the hands of a specialist than when prescribed by the general practitioner; but this is only when used in iritis. Eserine is an excellent remedy in phlyctenular keratitis. The extreme sensitiveness to light causing, in some cases, almost spasm of the orbicular muscle, yields very nicely to eserine, thus obviating the necessity of resorting to all the violent procedures (even anæsthesia) to break the spasm, to enable the physician to inspect the eye and apply the necessary treatment. It prevents the recurrence, to a great extent, of this variety of inflammation, which is a more valuable property than the property to cure the disease. Eserine has the power of destroying bacteria and arresting the progress of germ life.

Of late it has been employed in the treatment of gonorrhœa, its application being based on the property just mentioned, to destroy the gonococcus of gonorrhœa. The results were very good, but until now the drug has been entirely too high priced to be used in that manner. It is to be hoped that before long it will be within the reach of all patients.

Iron in Anæmia and Diphtheria.

By G. A. Williams, M. D., Bay City, Mich.

IN speaking of iron, a great many writers have claimed advantages in its administration, but most of their ideas seem to be based on theories and and speculation and not on facts. Most of us are liable to accept all kinds of theories without sufficient study or investigation. One writer says, "it is well known that iron not only augments the quantity of the red coloring matter in the red corpuscles, but also actually increases their number." Another says, "it has been found, that of all the preparations of iron, the chloride possesses the power of stimulating the nervous system. It has been said that this effect has been vividly illustrated in chlorosis. If this be true it would be all the more indicated in diphtheria and so on." I have been in active practice for nearly twenty years and I have never found iron necessary in the treatment of chlorosis or anæmia. I do not wish to be an optimist or a nihilist, but rather between the two extremes. There is a set of physicians very aptly called "dosers," who are continually looking for specifics. They swallow everything whole without salt, we might say, and lose sight of all sanitary science and common-sense treatment.

Let me give an illustration: I was called to a large boarding-house, where there were a case of typhoid fever and several cases of diphtheria. The patients had been taking medicine for some time without benefit and there had been constantly some kind of ailment in the house for a long time. I found the fever patient in a room filled with coats, dresses, shawls and all kinds of hangings, an old carpet on the floor which had been there for years and the windows and doors all closed up very tightly. The patient was very anæmic and I noticed two or three dozen bottles of medicine on an old table, probably containing iron and other specifics, and possibly the "cohothedra compound.* Did I sit down and write half a dozen prescriptions? No. I had the carpet taken up, the floor scrubbed, all the hangings taken out of the room and the whole house thoroughly cleaned up. The cellar was unused and full of stagnant water which had been there for years; it was cleaned out and bucketfuls of copperas solution were slopped around everywhere. Afterwards good

*Vide, Medical Age, Aug. 10.

diet, good nursing, fresh air, fresh water, and little or no medicine, and recovery.

Speaking of diet, I do not believe in the stuffing process either. I saw patients treated in that way when I was in some of the large hospitals. I remember one who was ordered a large tumblerful of egg-nog every hour. It was egg-nog all the time and finally the patient became so disgusted, that he commenced vomiting, and he was unable to retain either nourishment or medicine.

To return to anæmia. Imagine a young lady suffering from anæmia and chlorosis, going to a professor of the optimist type. He would would at once say, "Ah! my dear you are suffering from anæmia and chlorosis. I can see it by your appearance without difficulty. I shall immediately prescribe my specific for you: Tr. ferri mur. etc., etc." She takes it and it does her no good. She goes to another physician who happens to be of the common-sense type. He finds the patient with all the symptoms of indigestion and that she probably spends most of her time working at a sewing-machine. Does he immediately give iron? No. He treats her indigestion, regulates her diet and advises her to go to the country for a few weeks' vacation and she soon gets well. Her cheeks and lips get red in a short time, but where did she get her iron? From all kinds of food almost everywhere in nature. Whence do the savages and all the lower animals get their iron when they get sick and get well, over and over again? In the treatment of disease three words are to be borne in mind: "remove the cause." I have treated a great many cases of erysipelas and I must say that iron alone failed in most cases and I always had to resort to quinine. Suppose we give large doses of calomel and iron to a nursing child: it curdles the milk, makes the tongue black, the stools black, and the stomach may become so irritable, that the child cannot retain nourishment of any kind. But the iron is said to be a nerve stimulant and to increase and enrich the blood and possibly the child may live on medicine alone. I used these large doses of iron, where I had a woman and six children down with the worst form of diphtheria. They were all taken with irritability and a continual burning sensation in the stomach and whole length of the œsophagus. I lost two of these children and I shall always believe that the iron acted injuriously. I should consider the administration of calomel and iron alternately as being dangerous. I would approve of one good dose of calomel to begin with, acting quickly or being quickly worked off by some other cathartic. It has been aptly remarked, that this is a disease of minutes, not hours or days and what we do we must do quickly. Calomel no doubt, is good as an eliminant, acting on the liver and the whole glandular system, but continued doses would produce depression which we always study to avoid.

Speaking of iron, some physiologist first discovered a very slight trace of it in the blood, then all the other theories followed; iron in the blood, iron produces blood, it not only augments the coloring matter in the red corpuscles, but increases their number, it increases the power to carry oxygen, it converts oxygen into zone, that is, it is claimed, asserted and said to do all these things. As far as my experience has gone I would no more think of giving large doses of tr. of iron in the treatment of small children and infants than I would of giving large doses of gallic acid, tannic acid, kino, rhatany, or any other powerful styptic and astringent.

In the May number of the GAZETTE, p. 217, we are advised of the mistake in using chlorate of potassa, that chloride of potassium is far superior and is used with great success in France and Germany. This compound being something similar to common salt, may not have the injurious effect upon the kidneys said to be produced by the chlorate. I think it quite worthy of investigation.

The Prevention of Diphtheria.

BY F. PEYRE PORCHER, M. D.,* CHARLESTON, S. C.

[DR. PORCHER accompanies his paper with the following note: "I regret that I did not see your notice in time to contribute to the collective series on diphtheria. Question 6 received meagre replies. I have been long interested in this subject, and send you a paper from Transactions of South Carolina Medical Society on "Prevention of Diphtheria." I advised and have been using the formula for 12 or 15 years. Being an original combination, I am glad to see that some of your contributors refer to the use of similar agents."]

In the course of a review published in the Charleston Medical Journal many years since, In a letter to a medical gentleman in Philadelphia written in 1878, which appeared in a medical journal in that city, and which was copied in the Medical Brief of Missouri, the prescription it contained being also printed in Naphey's Therapeutics, first edition, I submitted a plan for preventing the attacks of this fatal disease. The measures recommended were to be used by those who were well, but exposed to its contagion. My ideas were based upon the fact that diphtheria at its inceptive stage is local, and generally has its seat upon the fauces, which, if acted on and modified by suitable agents, would not offer a nidus for its reception. If micro-organisms are the agents by which diphtheria is caused or propagated, then they will be less likely to effect a lodgment upon surfaces which are subjected to the repeated action of remedies which, whilst uninjurious, may also prove efficient in the destruction of such organisms. I also selected agents well known for their activity and value as tonics, depurants, and antiseptics, which would be adapted to the treatment of the disease should our efforts at prevention prove abortive.

The prescription is as follows, the alcohol being a comparatively recent addition:

℞ Chlorate of potash, 1 to 2 drachms.
Mur. tinct. of iron, 2 to 3 drachms.
Quinine, 15 to 20 grains.
Hyposulphite of soda, 1 to 2 drachms.
Alcohol, 1 to 2 ounces.
Water, 6 ounces.

M.

S.—A teaspoon- to a dessertspoonful, in a little water, to be used two or three times a day by those exposed to the contagion.

I have directed and used this combination for many years past in families here, by whom it has always been kept; upon my recommendation it has been given

*Professor of Materia Medica and Therapeutics in the Medical College of the State of South Carolina. A paper read before the South Carolina Medical Association, April, 1883.

elsewhere; and though the testimony must always be negative, I have never known a case of diphtheria to occur where it was employed. The experience of one physician, however, cannot be conclusive upon such a subject, and others must examine into the merits of a claim of such importance.

In the early part of the past year, in a communication, made at his request, to my friend, Dr. Thomas F. Wood, editor of the North Carolina Medical Journal, I suggested that an addition might be made to the above formula in the case of children much exposed to the dangers of infection; when, for example, the disease existed or had recently occurred in a household. This consisted in the addition to each dose of one-fiftieth to one-seventy-fifth of a grain of the bichloride of mercury, and it was based upon the special power of this agent in its action on micro-organisms as an antiseptic, germicide and parasiticide.

In the recent paper by Dr. Sternberg (American Journal of the Medical Sciences, for April, 1883), entitled "Experiments to Determine the Germicide Value of Certain Therapeutic Agents," the highest rank is given to the bichloride of mercury as a germicide, iodine being next in order; and he states as a confirmatory fact that they are now using it in Vienna as a remedy in diphtheria. Dr. James C. Wilson, of Philadelphia, in an article in the same issue, recommends it as a potent disinfectant for the stools of enteric fever. Dr. R. F. Weir, in an article published in the Medical News for May 5, 1883, has also referred to the probable value of corrosive sublimate, given internally, in germ diseases. These observations only confirm the value of the suggestion I had long since made with regard to the use of this agent. The employment with similar intent of thymol, salicylic acid, eucalyptus, or the oils of gaultheria and mint, may prove useful; but I do not think that principles derived from vegetables will modify mucous surfaces or the blood as powerfully as those from mineral.

If diphtheria be so great a scourge, and the combination I propose be not hurtful but beneficial—even if regarded simply as a tonic and roborant—if there is even a probability that it will prevent attacks, then I hope that the profession will test the efficacy of this formula. If my anticipation becomes realized by the observations of others, then such uninjurious agents as were advised in the original prescription will not be withheld even from the laity, but will be widely disseminated.

In conclusion, I would add that I have found it serviceable likewise in scarlet fever, and, with the substitution of two or three drachms of supertartrate of potash for the hyposulphite of soda, it has proved in my hands extremely useful in erysipelas, in cellulitis, and diseases of the lymphatic system where there are swelling and puffiness of the subcutaneous cellular tissues.

Worms.

By D. P. Duncan, M. D., Waynesboro, Ga.

SOME members of our profession still cling with bull-dog tenacity to the opinion that worms do not affect the health of children, and that they are natural to them. The latter may or may not be true, but when they accumulate in the intestines, they produce the same disturbance that any foreign, indigestible substance would do. We find the picking of the nose, swollen lower eye-lids, restlessness in sleep, groaning, gritting teeth, starting, and lastly, spasms.

Worms kill more children than teething; and when you find the above symptoms with a strawberry tongue and a fever, which will attack several times daily, going off as frequently in cold sweats, you can swear that you have a case of worms, and had as well prepare and attack them.

Now as to the best means of getting rid of them. I use the fluid extract of senna and spigelia in teaspoonful doses for patients of 8 or 10 years of age, and less in proportion, night and morning, for three nights and days, following this up each morning with a good dose of castor oil, provided the S. and P. does not act. Then wait three days, and again institute the same proceedings, and for the same length of time.

This treatment is for the lumbricoid. For the oxyuris, or "thread worm," I use any bitter infusion by enema, sulph. quinine, or the mur. tr. iron suitably weakened, followed by an enema of common salt and milk—warm water half an hour afterwards, which will destroy and expel them.

The symptoms of the presence of the worm are the same as the former, with the exception that in the latter you will find the sufferer scratching the anus. If every practitioner will use these he will be gratified by the restoration to immediate health of many a little sufferer, who would otherwise linger in sickness for many months and perhaps eventually die.

The Oleate of Copper in Skin Diseases.

By D. B. Holsburg, M. D., Granville, Ill.

THE oleates now used in skin diseases call to mind a home remedy used by my mother years ago. It is to the oleate of copper, more particularly, that I wish to refer. For the cure of eczema and ringworm she prepared a salve after the following domestic process: About two or three hundred of the old-fashioned copper cents were laid in the bottom of a small copper preserving-kettle, slightly overlapping, so as to leave an open space under each penny. Sweet cream, enough to cover them, was then poured over the pennies, and the whole set in a warm place, not to be disturbed for four weeks. At the end of that time, all things being favorable, through the action of the oxygen of the air and the acids developed, the cream became of a green color throughout. The pennies were then divested of their coating, the cream in the bottom of the kettle carefully collected and thoroughly mixed, and the salve (an ointment of the oleate of copper) was ready for use. It was considered a sure cure for tetter and ringworm, all the country round, and quite a number of remarkable cures might be cited to confirm its merits. In the absence of the old-fashioned penny and the copper kettle, I heartily welcome the oleate of copper, with the positive conviction that my mother's remedy has come back to me in more accessible and scientific form.

Hospital Reports on New Remedies.

From Charity Hospital, New York City.

Manaca.

By W. S. Gottheil, M. D., New York.*

MARY MURPHY, æt. 40, Irish, single, a domestic; admitted January 23, 1883. Patient has had chronic rheumatism off and on ever since she had rheumatism first, nine years ago. At the present moment the first and second metacarpo-phalangeal articulations of the left hand are tender and swollen, as are all the metatarso-phalangeal joints of the foot. Says she suffers much from cough, etc., but examination reveals nothing but chronic bronchitis.

℞ Fl. ext. manaca, gtt. xx., t. d.

Jan. 24. Knees also are beginning to become affected. No fever.

Jan. 27. Knees much better. Less pain.

℞ Manaca, gtt. xl., t. d.

Jan. 29. Marked improvement in all her joints.

Feb. 3. Rheumatism fast disappearing.

℞ Manaca, ʒ j., t. d.

Feb. 7. Improving.

℞ Manaca, ʒ ij., t. d.

Feb. 14. Slight stiffness of legs only is left. Ordered passive motion and massage.

Feb. 24. She can move all her joints perfectly freely; no pain and but very slight disability. She was then taken off manaca and put on ʒ ss. doses of tinct. ferri chloridi.

Christiana Schlund, æt. 57, German, widow, washerwoman; admitted March 16, 1883. Patient has chronic rheumatism in marked degree; she was put at once on manaca, fluid extract, ʒ ss., t. d. and tonics.

March 26. Improving; pains in joints of legs going away.

March 29. Good result; much better. The patient was here lost sight of.

Mary Devine, æt. 19, English, domestic; admitted October 27, 1882. Patient has suffered for two years from chronic rheumatism, affecting chiefly the knees and the metacarpal and phalangeal joints. She was treated with alkalies, local frictions of green soap and alcohol, etc., without much result.

Nov. 20. Ordered gtt. v. ol. gaultheriæ, t. d.

Nov. 21. Ol. gaulth. increased to gtt. x., and ether frictions ordered.

Nov. 25. *Statu quo.* Knee joints—especially the left—swollen and very painful.

Nov. 28. Some improvement.

Dec. 6. Has been taking ol. gaulth. steadily since November 20 with but slight effect. Ordered gr. xv. sod. salicyl., t. d.

The amount of salicylate was then run up till she was taking ʒ iss. a day, without result. The iodide of potash was then ordered—and with that and massage and general treatment she improved so as to be able to sit up and even to walk around with assistance. There, however, the improvement stopped—her joints remained swollen and painful—and the disability did not improve.

Jan. 23. Ordered manaca, fluid extract, gtt. xx., t. d.

Jan. 27. Very much better. Continued treatment.

Feb. 1. Manaca increased to gtt. xl., t. d. Manaca was gradually run up to ʒ j., t. d., without effect. Colchicum, tinct. ferri chlor., in large doses, and all manner of local means were tried, as well as a thorough course of manaca again, without much result. When I lost track of the case, March 1, 1883, she was in very much the same condition she had been in for weeks, knee joints and joints of fingers swollen and painful, and great disability, so that only with difficulty could she stand on her feet at all.

Lawrence Foley, æt. 38, Irish, single, admitted March 8, 1883.

Patient first had rheumatism eleven years ago, and had suffered from it since. Present attack began one month ago. Hips, chiefly, are affected. There is considerable disability. He was put on a full dose of salicylate of soda and improved moderately.

March 13. Put on manaca ʒ i t. d.

March 14. Rheumatism worse. Right ankle is beginning to swell. Says the other medicine stopped his pain and this does not.

March 15. Getting worse.

March 19. Some improvement to-day; can walk better. Ordered manaca ʒ ii t. d.

March 20. About same; slight improvement. Ordered manaca ℥ ss t. d.

March 22. Improvement continues.

March 26. Pains bad again. Ordered manaca ʒ vi t. d.

March 29. Patient taken off manaca, there being no permanent result, and put on sod. salycilate again.

John Ward, æt. 17, single, Irish, admitted March 9, 1883.

Patient has suffered from rheumatism for the last three weeks, of a moderately severe type; never had it before. He entered hospital unable to walk or stand, complaining especially of pain and tenderness in the left knee, which is rapidly becoming worse. His left knee-joint is swollen, hot and very tender. Right knee is affected to a less extent. Other points, at present, unaffected. Temperature 100 3-5°.

℞ Ext. manaca fld. ʒ ii t. d.

March 12. Pains in knee less. Continue treatment.

March 13. Pains going fast; can move the joint.

March 20. Pain and disability gone. Patient transferred to help.

Thos. O'Brien, æt. 36, Irish, married, porter, admitted March 19, 1883.

Patient has had rheumatism off and on ever since his first attack, 2½ years ago. He enters hospital complaining of pain in both ankles and knees and his right elbow. There is no swelling or deformity, and but slight stiffness.

℞ Ext. manaca fld. ʒ i t. d.

March 20. No better. Ordered manaca ℥ ss t. d.

March 22. Complains of considerable dizziness to-day. Manaca stopped.

March 26. Giddiness completely gone. Manaca resumed, ℥ ss t. d.

March 29. Pains quite unaffected. Manaca stopped and patient put on sod. salicylate.

Joseph Hughes, æt. 30, U. S. printer, admitted March 26, 1883.

*House Physician Second Medical Division Charity Hospital, New York.

Patient had an attack of acute articular rheumatism six years ago, which lasted five weeks. He never had any trouble from that time until seven days ago, when, after some dissipation, he noticed pains and swelling in both his knees. This has been getting worse, and his ankles also have become affected. On admission, temperature 101°, pulse 108°, respiration 30. Both knees and left ankle are slightly swollen and very stiff and painful. No cardiac complication.

℞ Ext. manaca fld. ʒ j t. d.

March 28. Same condition; no improvement. Is entirely bedridden; in fact, can hardly stir in bed.

March 29. Suffers considerably. Temperature 100 1-5°, pulse 120°, respiration 30°. Ordered manaca ʒ ii q. 4 hours.

March 30. Pains have left his right knee, and are now in the left elbow and both shoulders. Temperature 101½°, pulse 115,° respiration 20.

He was taken off manaca and put on gr. xv sodii salicylas, with xxx gtts. tr. hyoscyam. t. d.

March 31. Is in a profuse perspiration. Temperature 99 2-5, pulse 90, respiration 24. Pain is going fast; only a little left in shoulders.

Patient not followed further.

Willam McManus, æt. 38, Irish, married, stableman, admitted March 8, 1883. Has had two previous attacks of rheumatism, the first an acute one. Had another last summer which laid him for seven weeks; the pains were then chiefly in his hip and shoulders. He enters complaining of pain and stiffness in shoulder and hips; other points but little affected; no fever.

Mar. 13. Put on fl. ext. manaca ʒ i t. d.

Mar. 19. Very much better, pains almost gone, continue treatment.

Mar. 20. Manaca ʒ ii t. d.

Mar. 22. Discharged, pains almost gone, good result.

Thos. Burns, æt. 50, Irish, laborer, admitted Feb. 19, 1883. Patient was transferred from penitentiary with subacute rheumatism of both knees. He never had rheumatism before, and his present attack began 10 days before admission into hospital. He improved rapidly under the salicylate treatment up to a certain point, but it did not seem to cure the pain and stiffness in the knees. Passive motions, frictions, etc., were used.

Mar. 14. Ordered fl. ext. manaca ʒ i t. d.

Mar. 15. Same. Continue treatment.

Mar. 19. Feeling better, right leg especially is stiff and painful; ordered manaca ʒ ii t. d.

Mar. 21, Much better, can walk well; ordered manaca ℥ ss t. d.

Mar. 22. Discharged; able to walk very well.

Thos. Butler, æt. 55, Irish, driver, admitted Jan. 22, 1883. Patient gives a history of subacute rheumatism, attacking him some ten months ago, and has suffered from it off and on since then. Lately his left knee and hip have been chiefly affected. At the present moment he complains only of stiffness and pain on motion in these two joints. The knee is somewhat swollen, but the man otherwise is the picture of health.

℞ Fl. ext. manaca, gtt. 30, t. d.

Jan. 29. Knee feels and looks very much better, but there is no improvement as yet in the hip; continue treatment.

Feb. 1. Same.

℞ Manaca, gtt. 30, t. d.

Feb. 5. Motion very free in knee, hip improving.

℞ Manaca, ʒ i, t. d.

Feb. 8. Improvement continues, can walk with considerable ease.

℞ Manaca, ʒ ii, t. d.

Feb. 12. Doing well; continue treatment.

Feb. 15. Discharged; nothing remains but the very slightest stiffness of the hip.

Kate McGrath, æt. 20, U. S., domestic, single, admitted Jan. 31, 1883. Patient enters ward complaining of pain and swelling of both joints of great toe of her right foot. No other joints are affected, and no history of acute articular rheumatism can be obtained. The parts have been affected a week; they are considerably swollen and tender, but there is hardly any redness of the surface or local heat; no fever; cannot stand on foot. Lead and opium wash was ordered locally, also

℞ Fl. ext. manaca, gtt. xx, t. d.

Feb. 1. Pain prevents her sleeping; ordered treatment continued, and ʒ ii sol. morph. (U. S.) at night.

Feb. 2. Pains better to-day; swelling has diminished; continue treatment.

Feb. 5. Doing very well; can stand on foot.

Feb. 10. Can walk with perfect ease, swelling gone; lead and opium stopped, manaca continued.

Feb. 17. Went out on pass and eloped.

Michael Plo, æt. 34, Italian, admitted January 19, 1883.

Patients history not obtainable, he speaking no English. Has had rheumatism 4 times; at the present moment the left knee and ankle, and the right knee and ankle are moderately swollen and stiff; shoulders and elbows are also affected, to a slight degree. There is no cardiac lesion, and no febrile movement:

℞ Fl. ext. manaca, gtt. xx, t. d.

Jan. 24.—Is improving every day; swelling is going down, pain on motion decreasing, continue treatment.

Jan. 30.—Doing very well indeed; can walk without a stick:

℞ Manaca, gtt. xv t. d.

Feb. 2.—In same condition, a moderate amount of disability remains:

℞ Manaca, ʒ j t. d.

Feb. 6.—Patient has had a relapse. Knees, shoulders and elbows are as bad as they were at first. Pulse 96, temperature normal, swelling increasing again:

℞ Manaca, ʒ ij t. d.

Feb. 8.—Improving again; continue treatment.

Feb. 8.—Same:

℞ Manaca, ℥ ss t. d.

Feb. 13.—Left knee very painful, rheumatism not improving.

Feb. 14.—Somewhat better. The supply of manaca here gave out, and the patient was treated with blisters locally and salicylate of soda internally. He gradually improved, and was discharged on March 2, with, for the time at least, almost perfect use of his joints.

Twelve cases in all were treated with this drug, all cases of chronic rheumatism; of these, good results were obtained in seven cases; in one a moderate effect was observed, and four cases were not benefitted at all.

	DISEASE.	TIME OF TREATMENT.	MAX. DOSE.	RESULT.
1.	Chronic rheumatism.	1 month.	ʒ ij t. d.	Good result.
2.	" "	13 days.	ʒ ss t. d.	" "
3.	" "	9 days	ʒ j t. d.	No result.
4.	" "	16 days.	ʒ j t. d.	" "
5.	" "	11 days.	ʒ ij t. d.	Good result.
6.	" "	10 days.	℥ ss t. d.	No result.
7.	" "	5 days.	ʒ ij 4 hr.	" "
8.	" "	14 days.	ʒ ij t. d.	Good result.
9.	" "	8 days.	℥ ss t. d.	" "
10.	" "	24 days.	ʒ ij t. d.	" "
11.	" "	18 days.	ʒ ij t. d.	" "
12.	" "	26 days.	℥ ss t. d.	Moderate "

Reports on New Remedies.

From Private Practice.

Some of the Newer Remedies.

By James Orr, M. D., Terrell, Texas.

FOR nearly two years I have been trying some of the "newer remedies," with varying success. Some have exceeded my expectations, while others have fallen below what I had reasonably expected. However, it is only after repeated trials that the exact value of any drug can be established, and I propose to continue those whose trials have not been satisfactory till I am not thoroughly satisfied of their merits.

I have found the fl. ext. cascara sagrada to be a reliable and useful remedy in the class of cases in which it is recommended, and my experience abundantly confirms the favorable reports of others.

Liq. ergotæ purificatus is superior to any other preparation of the drug I have ever used. Its feature is its unvarying constancy of strength.

The extract of cascara amarga I have found to present a combination of those tonic and alterative properties which make a drug valuable in the treatment of syphilis. I prescribe it in all my cases of constitutional syphilis, and find it to be followed by invariably good results. I also prescribe it in all broken down or cachectic conditions of the system, regardless of the cause, where I want a tonic and alterative combined. It is an invaluable agent in building up and invigorating the system, improving the appetite and digestion, regulating the bowels, and in every way restoring the lost health.

Fl. ext. manaca I have found to be a safe and reliable remedy in nearly every case of subacute or chronic rheumatism in which it was tried. In combination with iodide of potassium it has proven one of the most satisfactory remedies I ever used. It also possesses valuable tonic and alterative properties, and I have found no inconvenience from its use for thirty days or longer. I give it in half-drachm doses with iod. potass. every six hours, until amelioration of symptoms is experienced, after which the dose is diminished and the medicine kept up till recovery is complete.

Fl. ext. viburnum prunifolium has proven a valuable "uterine tonic" in all cases of debility of the generative organs attended by leucorrhœa, etc. I have also used it successfully in several cases of threatened abortion; in one case, however, it failed.

Fl. ext. damiana is now a well established drug, but I have found that to be efficacious it must be continued for some time, and one of the very best formulas for its administration is the pil. phosphorus, damiana and nux vomica, given in doses of two pills three times per day. The damiana manifestly assists the aphrodisiac action of the phosphorus and nux vomica.

I have used fl. ext. coca but a few times, but in every case with satisfactory results, where a nerve tonic or stimulant is required. Several female patients who complained of lassitude, drowsiness and debility, have taken it in teaspoonful doses three times per day, with the happiest effects.

The trial of these remedies has not been in isolated cases, but in a number, and those named above have given such satisfaction that I now prescribe them in my daily practice, and require them kept in stock by my druggist.

By Frank O. Lockwood, M. D., Minter, Ala.

Jamaica dogwood. This medicine fills a long needed want. In cases in which the opiates produce sickness and head distress, I use with success this drug, and the patient is pleased with the substitute.

Sierra salvia. I tried this medicine in a quotidian of several months' standing, in a girl 13 years old. Dose, a teaspoonful of the fluid extract, in water, at 9 and 11 A. M. and 6 P. M. The chill which occurred continuously about noon has not returned, and now two months have passed since the exhibition of the drug.

Cascara sagrada. In cases of habitual constipation, this medicine holds a prominent place in the materia medica. I have met with no failure in its use. Its effects are pleasant and positive.

Menthol. This drug has never failed to relieve my own headache or any nervous headache in my care. I simply wet the finger with the following mixture, and pass it several times over the forehead:

℞ Menthol, 1 drachm.
Alcohol, 1 ounce.
Oil of cloves,
Oil of cinnamon, ää 20 minims.

In the pain of chronic rheumatism of elbow and knee joints, it affords prompt relief, and in my own case of sciatica, rubbed down the groin and thigh it acted like a charm.

Translations.

[All articles signed "T" are translated for The Therapeutic Gazette by C. W. Tangeman, M. D., Cincinnati.

[Concluded.]

American Drugs—By J. Moeller.

TONGA.

Coarsely cut, partially pulverized stalks of two different and easily distinguishable plants. The mixture has a strong odor reminding one of fenugreek.

The greater bulk of this drug consists of irregularly-shaped fragments of the stalk of the plant, seldom exceeding 2 cm. in length, sometimes, perhaps, as

thick as a man's finger, very light and porous on the cut or broken surfaces or barkless portions, covered with a cork-colored or dark-brown bark; or of round stalks of the thickness of a quill and ribbed lengthwise; or of flat pieces of bark, which, to judge from their size and form, evidently belong to said fragments. A glance at the horizontal section of one of these pieces with a magnifying glass proves distinctly that varied shaped component parts belong to one and the same monocotyledonous species. The stem is composed of closely arranged bundles of dense fibres and covered by a comparatively thin bark traversed by hard, whitish streaks. This part of the drug has a specific odor and a delicate taste, slightly reminding one of vanilla.

Microscopic Characters.—The peridermis consists of five to eight rows of flat cells, some of which are thin-walled, the majority, however, being condensed almost to obliteration. The cells of the bark parenchyma are large and thin-walled, scarcely 0.5 mm. broad and covering but a small area. In older plants they reach two millimeters in width and have numerous irregularly disposed fibres which are, each of them, distinguished by a well developed bast bundle presenting a kidney-formed section, in the concavity of which, which always faces inwards, are a small number of narrow tracheæ. A few isolated, spindle-shaped, strongly solidified bast fibres, 0,025 mm. in diameter, are to be found irregularly distributed amongst the parenchym. The tube bundles of the

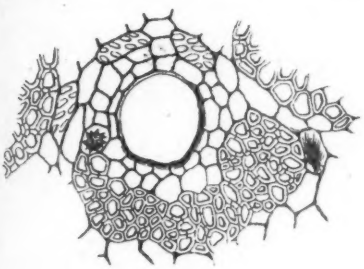

FIG. 14.

plant are distinct from the peripheric cords owing to the different location of the bast and the profuse development of the xylem, in which, namely, there are occasionally two tubes at the lumen, although usually there is only one. Raphids and glandular ducts are found within the principal parts of the stem and especially in the bark parenchym.

This ingredient of the Tonga is derived, as Holmes (Pharm. J. and Trans., 1880, page 889) had first suspected, and as has since been repeatedly proved, from a species of aroidea found in the Fiji and New Hebrides Islands, and known under the name of Raphidophora vitiensis, Schott. It is a variety of the rhaphidophora pertusa, Schott, Monstera pinnatifida, C. Koch, found on the coast of Coromandel, in Ceylon, Java, Timor, and in those parts of Australia which lie within the tropics, N. E. Brown, in Gardner's Chronicle, designates Epipremnum mirabile, Schott, Raphidophora lacera, Hassk, as the plant from which this ingredient of Tonga is obtained, but this is probably an error, since the latter variety has hitherto been found in Java only, while we know that Tonga was first produced, and brought from the Fiji Islands. These two varieties are, however, closely allied. They belong to the forms of Araceæ which A. Engler distinguishes by their double-rowed leaves, by their branches ending in a flower, and in each vegetation period springing afresh from the shoulder of the leaf again to a flower. The Raphidophora of the Fiji Islands, called by the natives "Nai-yalu" or "walu," is a creeper whose vines, to judge from the fragments thereof as found in commerce, attain the thickness of a man's thumb, at least.

The other and less bulky component part of this drug, consists of small particles of bark, seldom as large as a finger-nail, and not more than one millimetre in thickness. The outer side of this bark is scaly, and in color it varies from an ochre yellow to a tile brown hue; the inner side is dark brown and wrinkled. It is a fine-grained, brittle bark, showing a chocolate-colored section sprinkled with bright spots or points, and is wholly insipid and odorless.

Microscopic structure: The corky layer, which is no thicker than paper, is composed of cube-shaped clels, whose walls are almost always very thin, excepting on the inner side, where an odd one is said to be somewhat thickened. This coating lies imme-

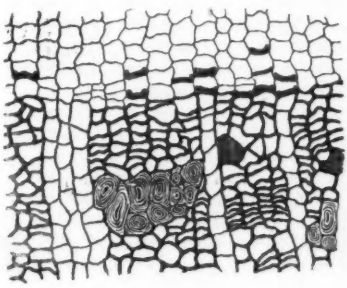

FIG. 15.

diately contiguous to the inner bark, which is traversed by one- to three-rayed marrow, the varying interstices between which seldom exceeding 0.5'. The bast rays consist of alternately arranged layers of parenchyma sieve-like tubes, the membranes of both being so strong that they bear an almost gelatine-like appearance, and are wholly devoid of bast fibres. On the other hand, groups of parenchym often become sclerotic, which change is often accompanied by a moderate increase of their elements, the form of which, however, is not materially changed. The density of the walls of these, although formed of the most delicate layers, grows to an almost complete solidification, but still perforated by numerous minute pores, visible only under a very powerful microscope. Where the stone cells of neighboring groups come in contact with each other, which, by the way, but seldom occurs, the marrow-ray passing through them becomes sclerotic. Nearly all the marrow-ray cells, as also many of those of the bast-parenchym, are heavily charged with crystal-sand or rhaphides. The sieve-tubes are somewhat more open; their transverse plates are occasionally to be seen in the section of the bark itself. (See Fig. 15.)

Mueller says that this ingredient is the bark of the Premna taitensis D. C. (Pharm. Centralb., 1881, p. 548), a species of the Verbenaceæ found on the Soci-

ety Islands, and called "Aro" by the natives, and in this he is corroborated by its anatomical structure. (Compare Tectona, J. Mueller, Anatomy of the Barks, page 176.)

The plant is a shrub or small tree, the smaller twigs of which are somewhat sticky; its leaves, which grow to the length of 8 cm., are oviform, abruptly pointed, heart-shaped at the base, crisped, smooth and naked on both surfaces, and glazed on the upper side. The stem of the leaf, as also that of the blossom, is, to some extent, hairy. The flowers are very small and arranged in large groups at the end of the twigs on which they are found. The calycles are slightly cup-formed, almost double-lipped. The small whitish blossom contains four stamina attached to the tube. The fruit is a pea-formed bear-berry, containing one seed.

It is and has long since been well known, that the leaves of certain other varieties of Premna, (*e. g.*, P. fœtida *Reinw.*, P. integrifolia L.) are used as food, particularly for flavoring purposes, in the Sunda and Molukka Islands and in East India.

In view of the variations (see Gehe & Co's Commercial Report, September, 1880) in the samples of this drug on its introduction, it is perhaps necessary for me distinctly to state that the samples of tonga which I have at various times received from America have always been found to be exactly alike and to contain invariably the two ingredients mentioned alone, and never containing leaves.

The London doctors, Ringer and Murrell, first recommended this drug as a remedy for neuralgia (see Pharm. Centralb., 1881, page 30) and it soon attained great notoriety. This notoriety seems, however, to have been due rather to a patent war, which was waged by an American against an English firm, which sought to monopolize the trade in tonga and its preparations, by registering the name, than to its efficacy as a medicine.*

The Lancet, March, 1880, says that Sydney Ringer received this remedy from a Mr. Ryder, who brought it from the Fiji Archipelago, stating that a certain European, who had married the daughter of a chief, had learned the secret from his father-in-law, in whose family it had been an heir-loom for some 200 years —the old story, with slight variations, so often told before, of drugs our knowledge of which first came from the missionaries. This first sample of tonga was subjected to a chemical analysis by Gerrard, (Pharm. Journ. and Transactions, 1880, page 849,) the sole one as yet reported. The fibres contain a volatile alkaloid, to which possibly it owes its virtues, such as they are, and which for the present we may call "tongin." The most important parts of the bark are, pectin, glucose, a little ethereal oil and fat.

Tonga has not been able to firmly establish itself in Germany as an anti-neuralgic remedy. The Pharmaceutical Centralb. of December, 1881, says that this much-lauded medicine had even then become nearly forgotten in that country. In reply to this THE THERAPEUTIC GAZETTE, (1882, page 40) says, rather mischievously, that the German faculties cannot be blamed for declining to handle a drug of the composition of which they know but little, if anything. Faculties are certainly not noted for experimenting with drugs of this nature, but should it appear that the drug under consideration has merit, we may entertain the certain hope that this obstacle to its full investigation will be overcome in due season.

* The name "Tonga" had previously been applied to a narcotic extract (see Pharm. Centralbl., 1881, page 100,) derived from datura sanguinea, R. & P.

American Pharmacists Abroad.

The following abstract from accounts given by German exchanges of the late remarkably successful International Pharmaceutical Exposition held at Vienna, may prove of interest to American readers: * * * * * * Space will not permit us to pass through all of the great halls and call attention to all that is worthy of note and praise. Our readers would tire, since there is so much of a sameness in many of the exhibits; but we certainly will be excused if we halt once more at the exhibit of the American firm of Parke, Davis & Co., of Detroit. These enterprising gentlemen have spared neither time nor expense to show that they are able and ready to compete, in a number of ways, with any firm. The Illustr. Wr. Wochenblatt says the Emperor personally complimented Mr. Wetzel, the representative of the house, for their enterprise in thus sparing neither time, expense nor the long journey, in representing their own productions.

The Pharmaceutische Post says the above firm exhibits a very interesting and instructive collection of crude drugs, fluid extracts, pills, etc., etc. We are told, that not nearly all the articles intended for the exposition arrived in time to obtain room for display, but such as did arrive are sufficient to indicate their capacity, and are very interesting and worthy of a close examination. In the first place, Parke, Davis & Co present to us a large number of new and rare drugs which already occupy a prominent position in the United States and England, while with us they are comparatively new. All the crude drugs are accompanied by the preparations that have been made out of them. We will only mention one, for example: hydrastis canadensis (golden seal), an efficient remedy in diseases of the mucous surfaces, is represented first in the form of a fluid extract (alcoholic); 2, a watery extract for local applications; 3, a concentration hydrastine (neutral); 4, berberinum hydrochloricum, phosphoricum and sulphuricum, obtained from hydrastine; and 5, an alkaloid hydrastia, in nice, white, crystal form. In a similar manner, some of the other new remedies are represented. Many of these are at present in the hands of experimenters for thorough investigation, both physiologically and therapeutically. The firm issues a book of over 300 pages, called the Newer Materia Medica, in which they publish the reports given up to this time, on the botanic origin, history, chemical composition, physiological action, and the therapeutic application of these new drugs, together with reports from private and hospital practice. The next class of preparations are of extreme interest to us, namely, the sugar- and gelatine-coated pills in two different forms, the round and oval. These productions are a credit to the firm in every respect, not alone on account of the quality of the sugar- and gelatine-coating, but the exactness with regard to weight and form, which is absolutely perfect; not alone do we find this perfection in the larger pills, but even in the smallest granules, such as 1-100-grain nitro-glycerine, 1-8-grain morphia sulph., 1-100-grain phosphorus (amorphous), etc.

To obtain such a degree of perfection in the manufacture of pills must certainly require time and skill. The attention of every visitor to the exposition is arrested by the arrangement and construction of the boxes that contain the pills, being divided into 100 apartments, holding a pill in each, with the partitions made of gelatine; this material is used because it has the property to retain sufficient moisture to keep the pill in a fresh condition for a long time. There are numerous other points of interest that cannot receive special attention at this time, but it affords us a great deal of pleasure to extend to this firm the well deserved credit, inasmuch as they are also the most energetic and active opponents to the secret remedy nuisance, and carry on the preparation of their articles on the strictest scientific basis, which is also clearly proven by the two journals published by Mr. Davis, the THERAPEUTIC GAZETTE and the Detroit Lancet; in this manner they become a great aid to the pharmacognostic investigations of nearly every country. The Wiener Medizinische Presse says the products of Parke, Davis & Co. are real apothecary's products; all of the drugs introduced by this firm are represented by the crude drug, the fluid extract and the active principle, whenever it has been found, together with the literature that has appeared on the subject. Among the remedies that are new to us are euphorbia pilulifera as a remedy in asthma, cascara amarga as an anti-syphiliticum, stylosanthes elatior as a uterine sedative. Finally their fluid extracts deserve to be praised. According to Mayer's reagents these contain exactly a definite quantity of the alkaloid. All of this may be looked upon as an indication that pharmacy is progressing rapidly in the United States. Many of the new drugs are already being taken up into the armamentarium of our physicians, and we heartily recommend our readers to acquaint themselves with the literature on the subject of these new drugs.

It remains only to mention that aside from the friendliest comments by the medical and daily press on the American exhibit, the jury have awarded a gold medal to Messrs. Parke, Davis & Co. T.

Adonis Vernalis.

Adonis vernalis, although used empirically in southern Russia as a remedy in dropsy, had never been thoroughly investigated until quite recently when Prof. Botkin made a thorough study of it at his clinic. The following is a short resumé of B.'s elaborate article, which was first published in the Arch. f. klin. Med. After a series of experiments it was discovered that only in certain kinds of dropsy, or rather dropsy due to certain causes, in cases where the œdema was due to a disturbance in the compensation and activity of the heart, the remedy acted very satisfactorily. The heart-beat increases in force after the use of adonis vernalis, and the size of the heart rapidly diminishes; the heart sounds and murmurs, especially the presystolic and systolic murmurs in stenosis, are more marked and distinct. The heart rhythm is more regular and somewhat slower; therefore the pulse is slower, and in most cases the pulse wave fuller and stronger. The secretion of urine is markedly increased, amounting to a change of from 300—400 ccm. to 2000—3000 ccm., a ten-fold increase of the watery element. All deposits disappear, specific gravity diminishes, and the urine has a very pale color. There is an absolute increase of the chlorides and urates, the body weight diminishes and the œdema disappears rapidly; the dimensions of the liver decrease, cyanosis and dyspnœa disappear, and respiration becomes full and regular.

In the largest number of cases great relief was experienced; at the end of the first day, complaints were less frequent, and in the course of a few days they disappeared entirely. Adonis vernalis has a good effect on cases also where heart disease is of a secondary nature, following chronic Bright's disease, etc. In cases even where the activity of the kidneys was very low and the œdema was well marked, it was very seldom that adonis vernalis did not give relief, provided the heart action was diminished and the blood pressure lower than normal.

We must append the history of the following case on account of its extreme interest: A common laborer had been taking adonis vernalis for nearly two months and felt very much relieved; the heart diminished in size; the congestion of the lungs, which was well marked, almost disappearing entirely; the œdema of the legs and the ascites disappeared entirely; palpitation of the heart and dyspnœa diminished so much that the patient was discharged from the clinic and returned to work. The remedy was dispensed in the following way:

℞ Infus. adon. vernal. ex 4.00 ad. coll. 200.00.
Ol. menth. pip., gtt. 2.

M. S. One teaspoonful every two hours.—*Wien. Med. Blätter.* T.

Citric Acid.

Prof. Hugo Schulz highly recommends citric acid as an active antiseptic. The use of citric acid and the expressed juice of the lemon is nothing new; it was introduced long ago, but has fallen into disuse; in the early part of the 19th century it played quite a rôle in the treatment of acute articular rheumatism and scorbutus. Oppler recommended it in pruritus of the scrotum, and quite recently both the acid and the juice have been employed with good results in diphtheria and in intermittent fever. The following is a short extract of the author's investigations with regard to the antiseptic properties of citric acid. Muscular tissue of a frog was placed in a 5 per cent., 2.5 per cent., and some in a 1 per cent. solution of the acid. After the expiration of 14 days the 5 per cent. solution was perfectly clear and the specimen of muscular tissue in a normal condition; in the 2.5 per cent. solution there was a slight formation of mold on the surface of the liquid with a slight odor of decomposition; while in the 1 per cent. solution the specimen was entirely decomposed. Blood mixed with a 2.5 per cent. solution coagulates to a chocolate brown mass, while weaker solutions allow the blood to remain liquid and stay decomposition for six to eight days; but when blood was only mixed with water and exposed to the air decomposition set in on the second day.

When the temperature was elevated and all the surroundings favorable to decomposition, large pieces of meat could be kept fresh for a reasonable time. These experiments show conclusively that citric acid possesses the properties of an antiseptic; but Schulz goes farther still, and proves that it acts as an active poison to the lower organisms when added in a solution of 1–1000. This explains

the therapeutic properties of citric acid, which have been noticed so often. The author thinks that it will occupy the same position in scorbutus as salicylic acid does in articular rheumatism.—*Deut. Med. Wochenschrift.* T.

Physiological Action of Iodoform.

For some time past Rummo has been experimenting with iodoform on animals, for the purpose of determining, if possible, its physiological action. The following is a short resumé of his conclusions:

1. There is a progressive diminution in the number of ventricular contractions of the heart; an increase in the force of the ventricular systole, and a slowing in the ventricular diastole.

2. The respiratory act remains normal when only small doses of iodoform are administered, while larger doses first cause an increase in the number of respirations per minute, then a diminution sets in until gradually respiration ceases entirely.

3. Ordinary doses increase the temperature 1–2°; larger doses cause an increase at first, then a rapid decline of 4–5° in spite of the tetanic symptoms that set in.

4. Local anæsthesia, general weakness, diminution of muscular and nervous irritability; reflex action disappears, especially in the extremity in which the injection was made. When administered subcutaneously in the larger animals, there was always vomiting, nausea, dysenteric discharges, marasmus, and all the symptoms of iodism.

5. With regard to the antiseptic properties of iodoform, Rummo has observed that when employed in substance it has not the power to hinder the development of bacteria in liquids favorable to their growth. It has only the power to prevent proliferation; a solution in turpentine has the power of destroying bacteria. This article is very valuable, and adds much to the information needed on the subject, especially since there were so many contradictory statements concerning the efficiency and action of this antiseptic. One author recommends it, while another has nothing but bad results to chronicle from its use, and therefore comes out in the very strongest terms against it; but this paper may do much toward indicinatg in what cases and in what manner it is to be applied.—*Revue Scientifique.* T.

Ichthyol in Internal Diseases.

Unna, of Hamburg, introduced ichthyol as a remedy in skin diseases, and now reports a number of cases where he used it internally. He has been most successful in the treatment of chronic and acute rheumatism. He claims there has been no remedy employed of equal efficiency in this painful disease. A 10 per cent. ointment of ichthyol and vaseline is painted on the affected joint which is then wrapped well in cotton. In some chronic cases he uses a 50 per cent. ointment, and in very bad cases he uses it pure. Good results have been recorded in muscular rheumatism. In affections of the respiratory tract inhalations are made, and especially good results can be recorded where the case is of recent standing with considerable catarrh. Inhalations are made by pouring a tablespoonful of ichthyol in a liter of hot water and then inhaling the fumes, just like turpentine. In a case of laryngeal phthisis, where the apices of the lungs were but little affected, continued inhalation relieved the subjective symptoms very much, but after all did not change the real local condition. In chronic bronchitis some patients noticed quite a relief; it has the property of diminishing the amount of secretion.

The different forms of angina yield very nicely to a solution of ichthyol. U. employed it in angina catarrhalis, angina follicularis and angina phlegmonosa; he claims for the drug the property of aborting abscess of the tonsil just as readily as a preparation of sulphur will cut short the formation of a furuncle. Quite recently the author used the remedy subcutaneously in a 10 per cent. watery emulsion without causing any untoward symptoms whatever. As an anti-catarrhal this remedy is valuable, but its anti-rheumatic properties are wonderful, especially since the remedy can be so easily applied, causing no more inconvenience than that the odor is a little unpleasant, which can be covered by the addition of a little cumarin and vanilla.—*Med. Chirurg. Centblatt.* T.

Kairin in Pneumonia.

Kairin as an antipyretic has been causing quite a little stir. It was first introduced and studied by Filehne. Prof. Riegel cannot coincide in all points with the former experimenter. In the first place is the assertion that to increase the dose to 0.5 every hour, will in every instance reduce the temperature to normal after the administration of the fourth dose. Riegel has found that even when he employed larger doses he could not bear out this conclusion. If the remedy caused a diminution of the body heat, in many cases it would not last long. In regard to the pulse it does not correspond with any regularity. A favorable influence on the general condition, as described by F., could not be noticed. On the contrary, in some few cases (as has also been shown by Seifert) the result was just the reverse, and after a relatively short period of administration collapse sometimes set in suddenly, so that the use of the drug had to be suspended, and stimulants were given. Secondly, R. cannot say that the subjective symptoms were any milder after kairin had been used for some time. R. finally comes to the conclusion that kairin should only be used in robust, strong constitutions, since it has a tendency to weaken the heart action; the temperature of pneumonia is not a very dangerous symptom and therefore need not be combatted by such a remedy as kairin.—*Ber. Med. Wochenschrift.* T.

Medicated Gelatine in Skin Diseases.

To simplify the treatment of skin diseases, especially where there is a large surface to be medicated, Prof. Pick has introduced the method of dissolving or suspending the medicament in a solution of gelatine. When this solution is applied it hardens and forms a medicated coating for the surface. Pick's first attempt was with chrysarobin and gelatine in psoriasis. Recently he has extended his plan of treatment and applied it in a number of dermatoses, with encouraging results. The following is one of his formulas: Gelatine alba sicca, 50 grms.; aqua fontan., 100 grms. Dissolve by agitation, then add the medicament to be used. The mass is allowed to harden, and a piece of sufficient size can be given the

patient, which he softens by placing a cup in hot water and putting the gelatine into the cup. When it has liquefied it may be be applied with a camel-hair brush as needed. When the coating has nearly hardened, the application of a little glycerine makes it soft and pliable and thereby prevents breaking.

In the treatment of eczema Pick has found salicylic acid to give the best results. Not infrequently an intolerable itching accompanies eczema, which is readily relieved by adding a little carbolic acid to the salicylic solution. This plan of treatment is, undoubtedly, far preferable to the employment of the nauseating, tarry preparations, both on account of their odor and the discoloration of the skin that they produce.—*Zeischrift f. Therapie.* T.

Mango.

The leaves and stems of mangifera indica have been used by the Indians as an astringent; they chew it when the gums are soft and spongy, and also in certain skin diseases. The drug has been employed with very good results. A resin can be obtained by making an incision through the bark and allowing the juice to exude and harden; this is soluble in alcohol, but not in water. When chewed it adheres to the teeth, and has a pleasant taste.

Dr. Linquist, who introduced mango, recommends it very highly for its extraordinary action in cases of hæmorrhage from the uterus, lungs or intestines. The superiority of mangifera in cases of this kind is readily seen when the following advantages are considered:

1. It is given in very small doses.
2. It is easily administered, since it has a very pleasant taste.
3. It does not disturb digestion in the least.

The extract of the fruit or the bark is recommended to be administered in the following manner:

℞ Ext. fl. mangiferæ indicæ, 10.0
Aquæ destill, 120.0.

M. S. One teaspoonful every hour or two.—*Zeitschrift f. Therapie.* T.

Resorcin in a Case of Epithelioma.

Dr. Manino, in an article on resorcin, reports a case of epithelioma that he has treated with it. G. P., aged 64, had always enjoyed good health until about four years ago, when he noticed a small growth on his right cheek, about the size of a split pea, which caused a great deal of pain. Continued scratching caused an abrasion of the skin, and on the slightest irritation it would bleed. Cauterization and excision only caused the growth to enlarge to a size of ten centimetres in diameter. The wound had a dark-red fungous appearance, with indurated edges, and gave off a profuse, thin, watery discharge. An ointment of resorcin and vaseline, 1—3, was applied two times a day for eight days, when a marked change for the better could be seen; a portion of the wound was beginning to heal over. After two weeks the ointment was weakened a little, and the case continued to progress rapidly. In a short time the whole surface was bridged over, and only a red scar remained. The treatment was painless and far more satisfactory than when caustics are used.—*Zeitschrift f. Therapie.* T.

Chloroform to Produce Anæsthesia of the Larynx.

An agent to produce anæsthesia of the vocal cords, for a short time, is certainly a great desideratum and a help to the laryngologist. Sometimes it requires months of training to prepare a patient for an operation on the vocal cords; now it is claimed that only a few hours are necessary to bring about the desired result.

The larynx is brushed twelve times with chloroform, to produce a hyperæmia. One hour later, it is again brushed twelve times with a solution of morphia murias in water (0.50 to 5.00). Care must be exercised that the patient does not swallow any of this solution. In the course of a few hours complete anæsthesia of the larynx generally sets in. At Schrötter's clinic it has been conclusively proven that this method is perfectly safe if carefully carried out. It is hardly necessary to state that this procedure is seldom or never necessary unless an endolaryngeal operation is to be undertaken, and then it is only necessary in very sensitive patients.—*Zeitschrift f. Therapie.* T.

Eucalyptol as a New Antiseptic.

Robert has made a number of experiments with eucalyptol and comes to the conclusion that it possesses the power to destroy bacteria or animal life, and can well be classed with antiseptics.

In order to test the properties of volatile antiseptics on animal life found in decomposing liquids he made a number of experiments with an infusion of hay seeds placed in a bottle and exposed to the atmosphere; in the course of a few days the liquid became turbid and slimy, but if a few drops of the oil of eucalyptus were added the liquid remained clear. The oil being volatile some micrococci were exposed to the vapor, the action of which caused a destruction of the animalcules. Some surgeons have employed a spray of eucalyptus during operations, thereby destroying every possibility of germs entering from the surrounding atmosphere; the wound is then dressed in the ordinary manner, and results have been very promising.—*Med. Chirurg. Centblatt.* T.

Lippia Mexicana.

Lippia Mexicana, a verbenacea recently introduced as a remedy to relieve the cough of phthisical patients; has been analyzed by Prof. Podwyssotzki, of Dorpat. The following is his report: The drug contains tannic acid, a crystalline coloring matter of no therapeutic importance, an ethereal oil, and a substance like camphor, which he calls "Lippiol." This substance seems to possess the medicinal virtues ascribed to the drug, but it is very volatile, and melts at a temperature of 25-30° C. Its chemical formula is similar to that of menthol. Dr. Podwyssotzki recommends a tincture made from the fresh plant, in the proportion of 1 part of flowers and leaves to 9 parts by weight of alcohol, as the best pharmaceutical preparation. The alcohol should be strong enough to hold in solution, the camphor and the oil. There is already a tincture manufactured in America and placed on the market.—*Zeitschrift Œstrr. Apoth. vere.n.* T.

Euphorbia Pilulifera.

There has been a strong demand for the crude drug in the markets, and as high as 200 marks per kilo has been asked. At present it can be bought for very much less, not because the demand has diminished, but because the supply has increased. It has been highly recommended in Australia, where it is indigenous, as an efficient remedy in asthma and bronchitis. The drug is very powerful, and therefore we cannot but ask that care be exercised in its administration.—*Zeitschrift Œstrr. Apoth. verein.* T.

NOTE BY TRANSLATOR.—This drug is efficient, and I have given it in 10–12 drop doses to a child aged 6, without any untoward symptoms. The great desideratum, however, especially in new drugs, is that we use an article of accurate known strength that is always uniform. The preparation used by me was a fluid extract manufactured by Parke, Davis & Co.

Yerba Santa (Eriodyction Glutinosum).

Yerba santa, called by the Spanish "holy weed," is indigenous to the western part of the United States, and belongs to the natural order hydrophyllaceæ. The efficiency of this remedy in laryngitis, laryngo-bronchitis, pleuro-pneumonia and chronic cough has been very satisfactory. A fluid extract is made of the plant, and by some individuals is recommended as a specific in diseases of the mucous membranes, especially in laryngitis. Formula is as follows:

℞ Fl. ext. yerbæ santæ, 6.00.
Liquor kali carb., 3.00.
Syr. simple, 42.00.

Dose. One to four teaspoonfuls daily.—*Centblatt f. der Gesmtt. Therapie.* T.

Exostemma Caribæum.

Exostemma caribæum, nat. order rubiaceæ, is indigenous to Mexico and Guiana. This shrub has a pleasant odor; the bark is smooth, of a dark brown color; at first the bark has a sweetish taste, but it soon changes to a strong bitter and astringent. Some years since small quantities of the bark were brought to England under the name of Princewood bark, but later it was found that the bark was not from the shrub above mentioned, and Princewood was only a trivial name. It is claimed for exostemma to possess the same properties as Peruvian bark, for which it has been recommended as a substitute.—*Med. Chirurg. Centblatt.* T.

Stigmata Maidis.

Stigmata Maidis (*Graminaceæ*).—Dr. Dassum was the first to recommend this drug as a specific in catarrhal inflammation of the kidneys and bladder (in his article in the Union Medicale). D. reports a number of cases treated by himself where the urine had a strong ammoniacal odor and a dirty-looking precipitate. These symptoms disappeared very rapidly after the employment of the fluid extract, and the cases made a rapid recovery. It was given in 20-drop doses, three times daily.—*Journal de Med. de Paris.* T.

Physostigmine pur. Cryst.

Merck, of Darmstadt has finally succeeded in preparing the pure crystalline physostigmine. The action of light on the crystals or the powder when rubbed up is to cause it to change its color to a dark red in a short time. It is not very soluble in water, and changes its color a great deal sooner than the salicylate, which makes the latter the more preferable.—*Circular v. Merck, Darmstadt.* T

Naphthol as a Cure for Itch.

Guérin prepares a mixture by dissolving 10 parts of naphthol in 5 parts of ether and then mixing it with vaseline about 100 parts. This ointment is applied locally and may be used in all stages of scabies; when kept from the action of the air it will remain good for some time.—*Journal de Therap.* T

Boracic Acid.

There is often a great deal of trouble experienced in pulverizing boracic acid in order that it can be used as a dressing. Pour a little alcohol in a mortar and ignite it, to warm up the mortar a little. Now put in the crude acid and add a little glycerine and the acid can be rubbed to a fine powder very easily.—*Pharmaceutische Post.* T

Phenoresorcin.

By mixing 67 parts of carbolic acid with 33 parts of resorcin, Reverdin makes a mixture which he calls phenoresorcin; when 10 per cent. of water is added it liquifies and can be diluted to any extent, which property is attributed to the presence of resorcin.—*Jour. de Thér.* T.

Correspondence.

Philadelphia Letter—Meeting of the American Gynæcological Society, Dry-Earth Dressings.

The eighth annual meeting of the American Gynæcological Society was held at the hall of the College of Physicians, Philadelphia, Tuesday, Wednesday and Thursday, September 18th, 19th and 20th, 1883. The sessions were held in the morning, during the hours from 10 A. M. to 1 P. M. The afternoon session continued from 3 o'clock until 5. Many excellent papers were read, and ably discussed by the fellows present. Among the members present were the familiar faces of Fordyce Barker, Robert Battey, Wm. H. Byford, James R. Chadwick, Frank P. Foster, Wm. Goodell, A. Reeves Jackson, Wm. T. Lusk, Theophilus Parvin, Thaddeus Reamy,

Albert H. Smith, R. Stansbury Sutton, T. G. Thomas and Thos. Addis Emmet.

The list of officers was as follows: President, Gilman Kimball, of Lowell, Mass.; Vice-presidents, Albert H. Smith and Theophilus Parvin, of Philadelphia; Secretary, Frank P. Foster, of New York; Treasurer, Paul F. Mundé, of New York.

The meeting was opened by an address of welcome by Dr. E. L. Duer, of Philadelphia. The first paper was read by Dr. Joseph Taber Johnson, of Washington, D. C., entitled "Superinvolution of the Uterus."

Dr. R. Stansbury Sutton, of Pittsburgh, followed with a very able paper on the subject of "The Importance of Cleanliness in Surgical Operations," in which Listerism was fully ventilated, and its virtues attributed rather to the cleanliness observed than to its antiseptic nature.

Drs. Emmet, Lusk, Wilson and Campbell joined in discussing this paper, and the general opinion seemed to be in support of Listerism in modified form, though the value of carbolic acid as a germicide was a matter of doubt, as micrococci have been found under Lister's dressings, and will live for some time in a five-per cent. solution of carbolic acid, though carbolic acid will kill the germs of fermentation.

The first paper in the afternoon session was read by Dr. Albert H. Smith, of Philadelphia, on "Hot Water in Secondary Hemorrhage after Pelvic Operations."

The next paper, by C. D. Palmer, of Cincinnati, entitled "Some Points connected with the Subject of Dysmenorrhœa," excited a very animated discussion by Drs. Chadwick, Barker and Emmet. Dr. Palmer attributes the majority of cases of dysmenorrhœa to neurotic origin.

The morning session of the second day of the meeting was opened by the "President's Address; a Biographical Sketch of Dr. Nathan Smith, Founder of the Dartmouth Medical College."

Dr. Thaddeus A. Reamy, of Cincinnati, then read a paper entitled "An Unusual Form of Abdominal Tumor." The form described was that of sanguinous tumors of the omentum.

Dr. Henry F. Campbell, of Augusta, Georgia, read the next paper. His subject was "Congenital Fissure of the Female Urethra with Extrophy of the Bladder."

Dr. Thomas Addis Emmet, of New York, then read a paper entitled, "A Study of the Etiology of Perineal Laceration, with a New Method of Its Proper Repair." He believes that a simple laceration of the perineum causes no trouble, and thinks that the symptoms commonly attributed to it are from some other cause. Relaxation of the posterior wall of the vagina, in his opinion, has much to do with the symptoms, and the operation he described for the cure has the effect of shortening the posterior wall, and also the bringing up and restoring the continuity of the deep pelvic fascia, which is of great importance in the support of the uterus and its appendages. This is accomplished by making an elliptical incision on the posterior wall of the vagina, near its mouth, and another a short distance above, and drawing the two surfaces into apposition by means of sutures.

"The Management of Accidental Puncture and other Injuries of the Gravid Uterus as a Complication of Laparotomy," was the subject of the next paper, which was read by Dr. Charles Carrol Lea, of New York.

Dr. A. Reeves Jackson, of Chicago, followed with a paper which was listened to with more than usual attention, his subject being the question, "Is Extirpation of the Cancerous Uterus a Justifiable Operation?" The test of any therapeutic measure, he said, is the saving of life and the relieving of suffering. Judged by this test his arguments were conclusively against the operation. Dr. Van de Walker, of Syracuse, N. Y., described his operation by cauterization with a saturated solution of chloride of zinc, first protecting the vagina with a pomade of vaseline and bicarbonate of soda. In his hands it had met with gratifying success.

Dr. Baker, of Boston, then described an operation of his devising a modification of the operations of Sims and of Schrœder, by which he was enabled to remove, not only the neck, but nearly the whole interior of the uterus, through the vagina, without opening either into the bladder or peritoneum. He had operated at least thirty times without a single death, and could call to mind at least six cases of five years' standing apparently resulting in cure.

Dr. Jackson closed the discussion by saying that Dr. Baker does not agree with him, for which he is sorry, but he agrees with Dr. Baker, for which he is glad. He also said that Martin kills fifty per cent., and that he did not believe that any one in the sound of his voice would care to submit a dear friend to the operation.

Want of space prevents further comment on this interesting and successful meeting. Next year the society will convene in Chicago, and those who wish to be entertained and instructed in surgical diseases of women will do well to attend. The officers for 1883–84 are: President, Dr. Albert H. Smith; vice-presidents, Drs. Chadwick and Busey; secretary, Dr. Frank P. Foster; treasurer, M. D. Mann. Other members of the council, Drs. Thomas, Barker, Reamy and Sutton.

The other day I called on Dr. Addinell Hewson, Sr., a prominent physician and surgeon of Philadelphia, and grandson of the celebrated anatomist, Wm. Hewson, to whom we are indebted for the discovery of the lymphatic system. My attention was called to a letter from Prof. Esmarch requesting full particulars relating to the use of dry earth as a surgical dressing, so highly advocated by Dr. Hewson, While I was in the office three cases came in to be dressed with the earth and I had an opportunity to examine the product and its method of application, and listening to a relation of the favorable results obtained by the use of this novel therapeutic measure.

The first case was that of an epithelioma of the nose and eyelid in a lady aged about fifty, who came to the office accompanied by her husband. The cancer was of about six years' duration and had ulcerated its way through the nose, destroying a greater part of the septum, and leaving a most unsightly hole with angry margins, leading from a point a little to the right of the median line externally, and not far from the top of the nose, disfiguring the countenance in a horrible manner. Three years after its appearance on the nose another spot appeared beneath the lower lid of the left eye, spreading upward, downward and laterally, destroying the tissues deeply

in its course. Tears, mixed with pus, running down the cheek, added a fresh complication, by the scalding, corroding nature of the discharge, and to the misery of the patient, who was truly in a pitiable condition.

To this ulcerated surface the earth, wet into a paste, was spread, not thickly, but in a thin layer, and over the earth there was placed a layer of cotton wadding. This was prepared by splitting the wadding and applying it in such a manner that the rough or split side adhered to the clay, and the smooth or glazed side (this being outside) presented a neat appearance.

Dr. Hewson told me that he was in the habit of changing the dressing in this case night and morning, the dry earth being merely scaled off with a spatula, and the paste reapplied without washing the parts, and the layer of cotton placed over the clay as before.

The result of treatment in this case was most satisfactory. The ulcerated surface healed kindly and rapidly under the clay, leaving a smooth, healthy skin, free from cicatricial tissue, and the places where continuity had been destroyed by the eroding nature of the sore filled up with healthy granulations, thus preventing disfigurement.

Much difficulty was experienced, however, in correcting the untoward complication caused by the muco-purulent secretion from the conjunctival surface of the eye, which, mixed with scalding tears, had furrowed its way down the cheek, keeping up irritation in spite of all attempts to secure proper drainage. This, however, was at last effectually controlled, and the eyelid commenced to heal, under the application of powdered white sugar, dusted on the parts before dressing with the earth. The use of sugar was suggested by the microscopical experiments of Dr. Richard Norris, of Birmingham, England, who is a competitor of Professor Bizozerro, of Italy, in the discovery of the third corpuscle of the blood, and who has been awarded 20,000 florins by the Italian government for his discovery. Norris uses sugar for preventing the decay of the serum and small corpuscles of the blood, to which he attributes tissue growth and repair. The effect in this instance was to stop the destruction of the newly-formed skin and to allow the earth to carry on its healing process.

I had the opportunity of observing several other cases, but space prevents me from describing them, and I will reward your patience by coming to a close.

F. E. S.

The Treatment of Gonorrhœa.

Every now and then we read in some medical journal of the wonderful success which Dr. A. or Dr. B. has had in the treatment of gonorrhœa. In the August number of the GAZETTE Geo. C. Douglass, M. D., of Salt Lake City, Utah, reports the "cure completely" of two cases of gonorrhœa in six days, by the use of an injection of corrosive sublimate, one grain in eight ounces of water. If further trial of this treatment shall prove beyond a doubt that it will cure an acute case of gonorrhœa in "six or eight days", the profession will sound the praises of its discoverer long and loud, and write his name in letters of fire on the door of the temple of fame.

In the first few days, in the majority of cases of acute gonorrhœa, any injection, even that of simple water, causes pain and gives additional distress. I have had some experience in this most common trouble during the last ten years, but have never yet seen a case of acute gonorrhœa cured in "six or eight days." The majority of such cases in my practice last from four to eight weeks and some of them longer. I believe, too, I have followed closely the recommendations of the best authorities on this subject. In gleet and chronic gonorrhœa injections of corrosive sublimate would be of benefit, but even then I am skeptical as to the "six or eight days" cures.

Specify your cases, gentlemen, and let some of us unlucky ones know more of your success with corrosive sublimate. These remarkable cures of gonorrhœa by a single remedy in a short time, remind me strongly of the man who cures typhoid fever uniformly in a week, and has never lost a case.

M. W. O'BRIEN, M. D.

BARNESVILLE, Ohio.

Corn Silk in Acute Cystitis.

One morning about ten days ago, I experienced considerable pain in urinating, and passed quite a quantity of blood with my urine. At the same time I had a dull heavy pain in the region of the kidneys. These symptoms continued with but little change for three days, excepting that the desire or rather the necessity of urinating frequently increased, as did also the pain during micturition, and the urine assumed a cloudy or muddy appearance. I determined to give nature a fair chance to perform a cure but after waiting three days and finding her wholly inadequate I concluded to give a trial to the fluid extract of corn silk. I took about an ounce and a half in 24 hours, in drachm doses every 2 hours. By the end of that time I had ceased to pass any blood, and the urine had increased in quantity and was of a natural appearance, with little or no pain in voiding it.

I made no test or analysis of the urine during the attack. Three days before its commencement I had slept in very damp night clothes and felt very stiff and sore the day after. About the same time I had been taking very violent exercise for a short time during the day. Whatever may have been the cause of the attack the medicine was efficient in its removal.

J. G. MILLER, M. D.

ATCHISON, Kansas.

Cascara Amarga in Erysipelas.

I have not had much experience with the above use of this remedy, having used it in only one case, but in that it was very gratifying in its action. I used it externally and internally. A piece of folded muslin saturated with fluid extract of cascara amarga relieved the excessive burning of the external inflammation almost as soon as applied. This note is merely a suggestion, but it may serve to secure for the drug a further trial as a topical application in erysipelas.

JOHN D. L. AVERY, M. D.

GRAND LEDGE, Mich.

The Therapeutic Gazette

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What is Chlorodyne?

NO question is perhaps capable of being correctly answered in so many different ways as the above. Appearing first as a nostrum of unknown composition, chlorodyne, by judicious advertising, became introduced to the medical profession as a therapeutic agent of rare virtue. The principal constituents of the mixture are, of course, readily recognized, and it was not long before physicians found that substitutes, more or less closely resembling the original in composition, were equally efficacious. Instead of cutting loose, however, from the old absurd name, and calling upon scientific pharmacy for an equivalent at once for the name and the thing, they have gone on year after year employing such substitutes as chance might throw in their way. The result has been that formulas almost innumerable have come into use, no one of them having anything more than a local authority. The fact that some such compound finds a universal demand, should have compelled the attention of the committee who lately revised the U. S. Pharmacopœia. Under a new name, of course, chlorodyne ought unquestionably to have found a place among authorized medicinal preperations, but the responsibility of fixing upon a formula which should take the place of those now in use, was, doubtless, too weighty to be assumed, unless the duty should seem to be imperative, and we cannot wonder, in view of the facts in the case, that it was finally shirked. We cannot help wishing that it had been otherwise; the difficulty will certainly not be diminished with time, and a future committee will have to face the problem. But meanwhile chlorodyne, or its equivalent, will be employed by an increasing number of physicians. Physicians ought therefore to know, if possible, just what chlorodyne is, or what it ought to be.

In a recent report on this subject, read before the Wisconsin Pharmaceutical Association, C. H. Bernhardt collates a number of the formulas in use, and adds, of course, one of his own, none of those examined proving in his hands entirely satisfactory. He has only followed the example of those who have gone over the ground before him, but he has apparently considered only the pharmaceutical aspect of the question: "What formula for chlorodyne is best?" At least, there is no evidence in the published report of his paper, that he has undertaken any critical comparison of the formulas from the standpoint of the therapeutist.

Believing, however, that there is matter of interest and profit to the profession in such a comparison, we have taken advantage of the data furnished in Mr. Bernhardt's paper, and herewith present a tabulated statement of the composition of some of the mixtures which are indiscriminately dispensed as chlorodyne.

We have added a few formulas not given by Mr. Bernhardt, among them one known as Gilman's, but differing very materially from that which Mr. Bernhardt credits to "J. H. Gilman, Boston Medical and Surgical Journal."

The parts given in this table are, of course, parts by weight. In many of the formulas the quantities of some of the ingredients are stated in "drops;" in others there is nothing to indicate whether the quantities are to be weighed or measured. We have assumed that the quantities of all kinds, except in the German formulas, are given in fluid measure. No little difficulty has thus been experienced in bringing the formulas together for comparison, and the figures are to be viewed only as close approximations. We have assumed that the tinctures in the American formulas are those of the Pharmacopœia of 1870.

In a few instances it is probable that the formula itself has suffered in transcribing. This is notably true of Cooley's formula, which, as given, contains 67 per cent. of chloroform; probably the quantity of molasses should read one fluid ounce instead of one fluidrachm, but no references are given in the paper by which the formulas may be verified, and we are obliged to use them as we find them, and in the main, no doubt, they are correctly given.

No less than 43 ingredients enter into these formulas, although no one of them contains more than 11. The only constituents which enter into all the formulas are chloroform and morphine, the latter in one instance only in the form of deodorized tincture of opium; capsicum and peppermint are present in nearly all the formulas, and cannabis indica appears in a large proportion.

In the great majority of cases the morphine is prescribed in the form of a hydrochlorate; where other opiates have been substituted, their value in terms of the hydrochlorate has been inserted in the table in brackets. In the same manner, preparations of capsicum and of cannabis indica have been reduced, for the sake of comparison, to units of the crude drug, although the value of the several preparations, in many instances, could be given only approximately.

A glance at the table will show how greatly these preparations vary in absolute and relative strength. The morphine may be regarded as the most important constituent in the majority of these combinations, but the quantity, even in these, varies between 6 and 19 parts in 1,000, while in the remainder the morphine becomes of secondary importance, and the proportion falls as low as 0.23 parts in 1,000.

	Number of formulas containing.	E. Smith (National Dispensatory.	P. Squire (Am. Phar. Association.)	From Druggists' Circular, Jan., 1876.	Hager's "English."	J. H. Gilman (Boston Med. Jour.)	Horsley.	Dr. Ogden.	"Philadelphia" U.S.(Dispensatory,15th ed.	Hager's "Dr. Brown's."	Chandler's.	Dutch Society.	Grove's.	Dick's.	Cooley's.	Fenner's Formulary, No. 1.	Fenner Formulary, No. 2.	"London," Prof. Sterling Loring.	F. W. McNutt, San Francisco.	Dr. Edwin Farnham.	"Gilman's."	Philadelphia Hospital, 1876.	De Puy, Can. Pk. Journal, May, 1880.	C. H. Bernhardt (1883.)	Parke, Davis & Co.'s Chlor-anodyne.
Chloroform	24.	197.	90.23	334.	5.2	47.	200.8	935.	285.25	94.	147.	396.5	885.	118.	670.	275.5	300.	45.	60.	132.	84.5	104.	136.	153.	135.
Chloral	1	11.	0.27	(16.)	...	1.9	1.2	15.	...	19.	6.9	15.	14.	5.7	10.5	(2.4)	(.7)	(3.5)	42.	8.3	(2.46)	7.35	0.4	9.	6.
Morphine Mur	19+5	4.	16.	20.	28.	...	...	...	...	...	...	...	...	...	...	...	7.	3.5	0.7	...	2.48	...	...	...	...
Morphine Sul	1.	1.	...	...	2.1	...	...	...	...	94.	...	...	54.	22.8	...	263 (70.)	...	...	...	...	11.	(10.)	17.2	...	...
Tinct. Opium	1.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31.	...	...	...
Tinct. Opium, deodorized	9+2	48.	11.	85.	2.1	...	...	...	...	94.	...	...	54.	22.8	...	263 (70.)	...	...	...	...	...	...	...	...	...
Sulphuric Ether	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Spts. Sulphuric Ether	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Spts. Etheris Co.	19+4	4.25	0.30	2.	2.1	(2.)	20.	3.7	4.5	9.4	6.	1.5	7.	2.8	2.6	220.5	(0.5)	8.5	(1.1)	2.1	(1.5)	3.3	0.75	1.8	2.5
Oil Peppermint	4.	183.	20.	...	...	22.5	17.	22.	37.	19.	15.	(165.)	80.	(45.5)	32.	69.	6.	...	12.3	12.5	17.	30.	46.	52.	17.
Essence Peppermint	19+2	130.	...	...	...	28.	...	...	19.	...	...	...	28.5	(17.5)	(1.3)	(31.)	...	...	28.	...	28.	...	...	...	...
Hydrocyanic Acid dil	2	7.	...	(2.)	...	(0.9)	(1.)	(45.)	(56.)	(9.4)	(0.27)	(3.2)	1.8	...	...	...	...	(62.5)	(1.)	(26.)	(0.7)	(12.)	...	(0.72)	(0.1)
Hydrocyanic Acid (Scheele's)	1+19	180.75	...	52.	...	22.5	24.	...	...	94.	6.9	32.	...	(17.5)	(1.3)	34.4	...	2.5	84.	(26.)	(11.)	17.	...	18.	2.5
Capsicum	12	...	...	...	...	...	...	...	2.25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tincture Capsicum	7.	...	...	...	...	...	...	1.8	(54.)	(47.)	(35.)	(120.)	(107.)	(22.5)	(33.)	(200.)	(295.)	(55.)	(2.)	(13.)	...	(22.)	...	(54.)	(40.)
Oleoresin Capsicum	16	...	...	...	...	...	...	(44.)	...	...	22.	...	...	...	...	161.	189.	...	...	...	...	...	...	45.	...
Cannabis Indica	4	...	...	...	...	...	...	88.5	107.	94.	...	...	...	...	66.	...	...	...	84.	26.	...	2.75	...	...	80.
Fluid Extract Cannabis Indica	8	...	...	...	...	...	...	...	...	...	15.	15.	14.	2.8	...	...	...	7.	...	...	...	...	...	...	...
Tincture Cannabis Indica	2	...	...	...	...	...	...	...	419.	...	321.2	64.	...	...	...	(145.)	202.	...	...	382.	163.	(21.)	74.05	...	...
Extract Cannabis Indica	2	...	...	...	...	...	...	...	...	473.6	490.	...	495.2	76.	93.	269.	...	933.5	...	...	566.	356.	500.	497.2	300.
Resin (oleoresin) Cannabis Indica	2	...	...	...	...	...	...	...	...	...	...	396.2	...	40.	...	...	...	...	...	...	...	...	165.	...	457.
Alcohol	11+1	...	50.	...	280.	180.	...	545.	64.	...	...	...	24.	...	...	...	...	...	...	236.	...	...	...	...	...
Glycerin	7	...	...	...	...	275.	...	52.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syrup	7	169.	546.	437.	...	439.1	390.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Molasses	7	...	79.	54.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Water	2	260.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mucilage Acacia	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chloric Ether	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prechloric Acid	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrochloric Acid dil	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrochloric Acid	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Extract Licorice	3.	...	40.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Extract Licorice Fluid	1.	...	...	...	7.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syrup Licorice	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tinct. Aromatic	1	...	...	...	562.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tinct. Hyoscyamus	1	...	...	...	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tinct. Aconite	1	...	...	...	...	...	...	...	...	28.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syrup Sarsaparilla	1	...	...	...	...	...	...	...	...	28.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Oil Cherry Laurel	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bitter Almond Water	1	...	...	...	...	...	...	...	...	...	...	0.8	...	...	...	...	...	868.	...	...	...	...	...	...	...
Tinct. Card. Co	1.	...	...	...	70.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burnt Sugar	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	54.	...	...	...	...
Honey	1	...	...	...	...	...	257.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	361.	...	41.8.	...

Equally instructive is the variation in the proportion of hydrocyanic acid, and of capsicum, etc.; but the table sufficiently exhibits them, and there is no necessity for enlarging further thereon. It may further be stated, however, that the average proportion, when present, of the more important constituents of "chlorodyne" in their formulas is: Chloroform, (present in all the formulas), 193 parts in 1,000; morphine muriate, or its equivalent (present in all the formulas), 7.88 parts; oil of peppermint, or equivalent (omitted in one formula), 3.2 parts; hydrocyanic acid, dilute, or equivalent, 47.3 parts; capsicum, or equivalent (omitted in four formulas), from 0.1 to 6.25 parts; ext. cannabis indica, or equivalent (omitted in eight formulas), 8.5 parts; sulphuric ether, or equivalent (present in nearly one-half the formulas), 41.37 parts in 1.000.

Much difficulty has evidently been experienced in selecting a solvent which should unite the several active constituents entering into these mixtures. In the majority of cases, indeed, the problem has not been solved in a satisfactory manner at all, the mixture forming, at best, but an imperfect emulsion, with a disposition on the part of some one or more of the ingredients to separate and form unsightly, and possibly dangerous, deposits. The molasses of the older formulas has given place, in the more recent ones, to syrup, and, better still, to glycerine. Some pharmacists, and among them the writer of the paper in question, still adhere to the idea that the constituents of the mixture must be held together by some emulsionizing agent, such as mucilage of acacia. This is a mistake; alcohol, glycerine and water, in certain proportions, will hold in perfect solution the usual active constituents of this mixture.

The important practical question, however, for the physician, is, How shall we obtain the advantages to be derived from some such combination as those under discussion? The pharmacopœia has not yet recognized, named and defined it. We would accept it even under the proprietary name of chlorodyne, and use it, awaiting the adoption of some authoritative formula and standard; but while the name is applied to mixtures having such a wide diversity in composition, and varying so greatly in strength, it is hazardous to prescribe it, even when we know where it will be dispensed, for we can have no assurance that the prescription will not be copied and the medicine procured elsewhere, and prove to be a very different article. Of course we may specify Gilman's (which formula?), or Smith's, or Bernhardt's, but even then the chances are that the dispensing clerk will not be acquainted with the particular formula mentioned, and will imagine that chlorodyne is chlorodyne, and dispense whatever chanced to be so labelled, and so our intentions would, after all, be frustrated. But are we obliged to prescribe chlorodyne at all? Among the formulas tabulated will be found one which is a chlorodyne in all but the name, and the name suggests the relationship. It is called chlor-anodyne, a better name etymologically, by the way, than chlorodyne; it is of definite composition, the formula being widely published, and, pharmaceutically speaking, it is an unexceptionable preparation, the solvent being so selected as to hold in perfect and permanent solution the several active constituents. There is, therefore, a way out of the difficulty: Prescribe chlor-anodyne.

Diphtheria.

GAILLARD's Medical Journal for July reproduces our summary of the collective investigation of diphtheria as conducted by this journal, and takes occasion to criticize, somewhat severely, the conclusions which we drew from the record. In the words of our esteemed contemporary, "the summary is open to manifest, just and unavoidable criticism, and the replies are unquestionably, for the most part, untenable in the views taken, and therefore in the conclusions formed." The conclusions are taken up separately, and are in each instance rather summarily dismissed with the editor's disapproval. It was, of course, never contemplated by us that the conclusions which we formulated should escape criticism. The status of our knowledge of diphtheria is, to say the least, very perplexing, and there is probably no disease on the list upon which there exists a greater diversity of opinion, as touching its nature, etiology, pathology and treatment. We, therefore, find no fault with Dr. Gaillard's disapproval as such, but we think we had a right to expect something more from him than a simple dogmatic denial of conclusions based upon expressions of opinion from so many leading practitioners, representing so many different States in the Union. The status of our knowledge of the disease demands the free and honest criticism of views expressed, for it is only through such criticism that our knowledge can become perfected. This knowledge can certainly not be advanced through either dogmatic assertions on the one hand, or dogmatic denial of these assertions on the other.

Regarding our first conclusion, namely, that diphtheria may be either local or constitutional in its origin, Dr. Gaillard says: "It is a very vague and unsatisfactory statement." We do not propose to consume space or tax the patience of our readers by another review of the facts upon which this conclusion is based, and will simply content ourselves with placing over against the opinion of Dr. Gaillard, a conclusion arrived at by Prof. A. Jacobi in his classical treatise on diphtheria: "The entrance of the diphtheritic poison into the system is not the same in all cases. There are cases in which the origin of the disease is decidedly local. There are others in which the poisoning of the blood through inhalation is the first step in the development of the disease."

Of our second conclusion, namely, that diphtheria may continue as a purely local or a purely constitutional disease, our critic says, "This must surely be untrue." In answer to this criticism it is not necessary for us to quote from authorities, and we cannot believe that Dr. Gaillard bases his emphatic assertion upon information derived from the books. We cannot, moreover, but believe that in his experience with the disease he has met with cases which have terminated fatally before there was even time for the formation of a membrane. We think there are few of our readers of any considerable experience in the treatment of epidemic diphtheria, who will not bear out by that experience the assertion that the poison may so completely attack the system as to destroy life without the trace of local manifestation. On the other hand, we need only appeal to those who have any familiarity, from clinical experience, with the disease, for endorsement of the statement that fatal diphtheria has

been communicated from cases in which the membranous patch was unattended with the slightest rise of temperature or other symptoms or sequelæ indicating constitutional disturbance. There are, moreover, a very respectable number of physicians and authors who maintain that diphtheria proper is a purely local disease, and that constitutional symptoms are accidental.

Our third conclusion was that "the comparative value of local and constitutional remedies is dependent upon the nature of the affection in individual cases." Dr. Gaillard, evidently quotes this conclusion from memory, and thus does us the injustice of making us say that "the success of remedies depends upon the nature of the affection," he then, very properly, declares that "few persons would, or could admit the truth, or even the possibility of the truth" of this conclusion. It will require only half an eye to see that what we said, and what Dr. Gaillard accuses us of saying, are two quite different things, and we hope our usually fair-minded friend will not insist on making us, *nolens volens*, swallow a bolus of his manufacture, and that, too, regardless of the palatability of its ingredients. It is a source of gratification to us that our proposition as we put it has not called for his disapproval, and that he is obliged to force on us the paternity of a statement before he finds anything objectionable under this head.

Touching conclusion number four, that "diphtheria is a contagious disease, but not liable to attack a healthy mucous membrane, or to find an entrance directly into the circulation," our critic again declares that "few persons can or will believe it." He says that "persons in perfect health have received diphtheritic sputa into the eye, and have died after suffering of the disease, and persons at funerals have often contracted the disease and died of it. To assume that only diseased eyes and diseased lungs so suffer is unphilosophical and contrary to the demonstrations of almost unlimited testimony." Surely there is nothing in our conclusion, as we have stated it, which denies the *possibility* of diphtheria attacking a healthy mucous membrane. Had we dreamt of the possibility of, or liability to, the misconception of our language into which Dr. Gaillard has fallen, we might have reproduced from the standard authority a definition of the word "liable," which would have guarded our literary contemporary against the injustice which he would do us.

We declared as our fifth conclusion, that the contagion of diphtheria "is not a micrococcus," and in our sixth, that "it is of a gaseous nature, and can be neutralized only by a true disinfectant and not by an antiseptic." In a previous division of our summary we took especial pains to distinguish between a disinfectant and an antiseptic. Dr. Gaillard is of the opinion that the testimony does not justify such a conclusion. Perhaps not, but we gave it a somewhat careful study and endeavored to act judicially in the matter; and Dr. Gaillard himself, in another part of his criticism, does us the compliment of saying that the summary "is in reality the substance of the replies given." To have maintained his reputation for consistency, he should have subjected his statements to a more critical review. The conclusion, in so far as it relates to bacteria, is, moreover, quite in harmony with the results of the more recent exact observations, to the reports of which, as he will find them in the literature of the subject, we respectfully commend our critic. If, therefore, the poison of diphtheria is not a micrococcus, or anything which can be discovered under our most powerful glasses, what is it? We assume it to be of a gaseous nature, and believe that a study of the nature of sewer gas furnishes some support to the assumption. The chemical nature of the diphtheritic poison is, moreover, strongly insisted on by no less an authority than A. Hiller.

Dr. Gaillard dismisses our conclusions on the subject of the treatment of diphtheria by the simple statement "that they are merely dogmatic in character." We shall not attempt to controvert this statement, which is, as our readers will perceive, scarcely less dogmatic than that of which it is a criticism.

Dr. Gaillard closes his somewhat caustic criticism of our summary and conclusions with a statement which the perusal of his article would certainly not lead us to anticipate: "The paper is, nevertheless, highly interesting, instructive and suggestive. So far, all of the writers and teachers on this subject are like the commanders of voyages to the North Pole—some are wrecked, some destroyed, some ruined, some evince marvelous folly, some are content never to undertake the work again, but no one has succeeded in his attempt." These kindly comments are a very efficient antidote to the suffering inflicted throughout the criticism. It is, moreover, a source of ineffable pleasure, in the midst of our misery, to have the company of the illustrious "wrecked, destroyed, ruined and marvelously foolish" who have gone before. We take final consolation in the fact that "our enemy may write a book" on diphtheria some day himself.

The Attitude of Pharmacists Towards New Remedies.

UNDER the system of the division of professional labor which is being rendered more necessary through the increase of knowledge and the limited capacity of the average man to receive such knowledge, there will exist a certain tendency on the part of the different divisions to overlap, and their relations must of a consequence become at times more or less strained. These difficulties present with considerable frequency in the domain of medicine, owing chiefly to the fact that many of the existing divisions are of such comparatively recent creation that the lines between them are not as distinct as it is their tendency to become with the lapse of time. In order, therefore, that acerbities may be avoided it is desirable that the field be frequently scanned with a view to detecting and remedying abuses which may be either intentional or unintentional in their nature.

An article in the Weekly Drug News and American Pharmacist by Mr. E. L. Patch, of Boston, and written in reply to the following query propounded by the Massachusetts State Pharmaceutical Association: "Should the pharmacist encourage or discourage the use of the many new remedies that are constantly brought forward and so persistently advertised by wholesale pharmaceutical manufacturing firms?" calls for a few comments in the above connection. Mr. Patch answers the query from the standpoint of the pharmacist and his reply is not in harmony with that which we as a member of another division of medicine, or as a general practi-

tioner, would give. The first step in our reply would be to question the right of a pharmaceutical association to propound such a query. Its doing so evinces a very erroneous conception of the relations which should obtain between it and the medical profession proper. The question of the use of drugs, new or old, is one which it is the sole prerogative of the physician to pass upon, and the pharmacist who essays an opinion on it is guilty of presumption. He has his own peculiar office and although that is, purely, to cater to the wants of the physician, it is not in any objectionable sense of the term an inferior office. It is for him to provide such materia medica as the physician may deem best suited to the needs of his patient, to guarantee their purity and to furnish eligible preparations of them. With the nature of these materia medica best adapted to the case in hand he has absolutely nothing to do.

The grounds of Mr. Patch's objection to new remedies are chiefly mercantile, and hereon he has an undisputed right to base an opinion. If the prescription by physicians of these drugs in any way entails a pecuniary loss on the pharmacist it is emimently fitting for him and his co-pharmacists in council assembled, to discuss the means whereby this loss may be prevented. It is not for us to take part in this discussion, and much as we may sympathize with him we must leave it to his ingenuity and business ability to solve any problems of this nature which the facts may have generated. The facts of new remedies and their prescription by the physician are beyond his province to affect. It is his duty first to square his professional relations with them and the commercial features of the case. It is, of course, his prerogative, as a citizen, to refuse to cater to the wants of the physician in this direction. His doing so would, however, carry with it the possibility of further complicating the financial situation. If the physician desires his patient to take a drug, new or old, this desire must be respected, and if the retail pharmacist refuses to provide for him, the supply must be had from the manufacturer, who is none the less a caterer to the needs of the physician than is the retailer. We should question very much the wisdom of the policy on the part of the retail pharmacist which would compel physicians to look directly to the manufacturer for their supplies of even new drugs.

The loss which it is claimed is entailed on the retail pharmacist in connection with the newer materia medica, is directly traced by Mr. Patch to the fact that the physician does not follow up to a sufficient extent the trial of the particular drugs of which the dispensing chemist is obliged to lay in a supply. A physician orders an ounce of quebracho, or manaca, or cheken, for instance, and the druggist cannot buy it in less than a four-ounce lot. The physician, after the trial of the single ounce, is not pleased with the remedy, and, returning to the older and tried drugs, leaves the three ounces of the newer and imperfectly tried drug on the druggist's shelves, where it remains a drug in the most objectionable, or pecuniary, sense of the word. This is, unquestionably, a hardship and a legitimate cause for complaint. But it is the physician, and not the drug, on whom the druggist should pour out the vials of his wrath, and if the query propounded by the Massachusetts State Pharmaceutical Association had had reference to the physicians guilty of this unfairness, to both the druggist and the drug, it would have called for the commendation rather than the condemnation of the progressive physician. The injustice of basing an opinion of a drug on anything but a full and complete trial is too obvious for argument.

The Relations of the Dispensing to the Manufacturing Pharmacist.

IN the course of his reply to the query propounded by the Massachusetts State Pharmaceutical Association, and referred to above, Mr. Patch lets drop some suggestions which, though irrelevant to the query, will bear reproduction under another head. They have reference more particularly to the relations which a newer order of affairs has established between the manufacturing and dispensing pharmacist. Time was when the manufacturing pharmacist, in the present signification of the term, did not complicate the relations of the retailer and the physician. Those were the days prior to sugar- and gelatine-coated pills, fluid extracts, abstracts, alkaloids, resinoids, and the numerous other refinements of modern pharmacy. Those were the days of copious draughts of vile infusions, powders of the crude drug, boluses and pills made to order, and the various other abominations which are among the recollections of the youth of the man whose head bears tokens of the approaching winter. But the times have changed, and we, in sensible obedience to great law, have so changed with them that the occasional obstinate old gent of ye olden time, who persists in his fidelity to his Bourbon predilections, has become an object of good-natured curiosity.

We cannot do better than to reproduce Mr. Patch's wholesome advice, taking the liberty to italicize the advice under No. 3:

> I honestly believe that the manufacturer can, if he will, provided he possesses sufficient knowledge, make pharmaceutical preparations on a large scale, more constant in composition and at less cost than the ordinary retailer. He is compelled to possess himself, or to employ supervising talent of an order superior to that found in the majority of retail stores. Purchasing material in large lots, he can profitably give time to examination and assay of samples, and can take advantage of the market. Making in large quantities, the cost of repeated manipulations is avoided. Active competition compels greater attention to the recovery of menstrua and standardizing of strength. I believe the manufacturers have an average honesty equal to that of the retailers, but I know there are some who may be perfectly reliable.
>
> The ordinary retail pharmacist has not the knowledge, time, or facilities enabling him to examine the different maker's goods to assure himself of their reliability. Such an examination would add to the cost of the goods. Again, many remedies originally well made, deteriorate on the shelves of the maker, the wholesaler and the retailer, before the consumer gets them. The physician orders Mr. So and So's preparation, and it is dispensed irrespective of its then condition, for the pharmacist cannot know how it appeared when first made. In view of all this, the intelligent course to pursue seems to be:
>
> First.—Never recommend a manufacturer's goods because they yield a large margin.
>
> Second.—Encourage the employment of those preparations only that *you* have opportunity for *knowing* are made by an able and responsible party, no matter what their cost.
>
> Third.—*Never recommend pseudo-proprietary preparations, the names of which have been copyrighted.*

We are much pleased to note this advice from a prominent pharmacist. It is but a repetition of that which this journal has for years been giving, and the neglect to follow it is operating most disastrously to the retail pharmacist. By keeping in stock and selling proprietary preparations he reduces himself from

the ranks of a profession and becomes a mere tradesman. The tendency of his sale of proprietary medicines is, furthermore, not only to make a pharmaceutical education on the part of the druggist superfluous, but also to create a breach between him and the physician, into whose income such direct sale to the public makes serious inroads. By refusing to keep in stock any preparation whose manufacture is restricted by copyright or patent to any single firm, the retail pharmacist would not only make such preparations unprofitable, but would lay the foundation of much more pleasant and profitable relations between himself and the medical profession than now exist.

Fourth.—Make all the preparations you have sufficient knowledge and proper facilities for making well.

This advice is wholesome, whether viewed from the professional or the pecuniary side of retail pharmacy. It should, however, be taken in connection with the first part of Mr. Patch's instructions as given above. In the case of a large line of preparations the dispensing pharmacist will find it greatly to the advantage of his pecuniary interests as well as to the interests of his patrons to deal with the manufacturer, and for reasons which Mr. Patch has enumerated. There are, however, a great number of preparations which the druggist now buys, the manufacture of which by himself and assistants would not only be profitable but would also afford that training which is essential to the competent pharmacist.

Fifth.—By constant study and experiment, strive to extend your knowledge, that you may be able at any time to make *any* preparation you employ, in sufficient quantity to warrant the outlay for room, apparatus, etc., and be able also to examine intelligently the quality of your purchases.

The pharmacist certainly owes it to his patrons to so qualify himself as to be competent to determine the exact value of his purchases. He especially owes this to the physician who, in the division of labor of later years, depends solely on the dispensing pharmacist for the strength and constancy of the medicines which he prescribes. The dispensing pharmacist who is thus competent, and who is honest withal, will not sacrifice pharmaceutical strength to price in his purchases. General competency combined with honesty on the part of dispensing pharmacists would banish the cheap-John manufacturers who now find purchasers solely through the cutting of prices to rates which make the manufacture of an honest preparation impossible.

Sixth.—Discourage the employment of those combinations that you know are pharmaceutical or therapeutical monstrosities or impossibilities.

Seventh.—Discourage the introduction of fanciful remedies.

In so far as the advice given under the two preceding heads has reference to the relations of the pharmacist to the public who desire ready-made compounds, it is eminently proper. When the dispensing pharmacist, however, undertakes to instruct the physician touching the therapeutical properties of remedies, fanciful or otherwise, he goes quite beyond his sphere, and takes on himself a function for the discharge of which his education has not fitted him. In so far, therefore, as this advice may apply to the relations of the pharmacist to the medical profession, it is a piece of presumption and we trust Mr. Patch did not intend it to have any such application.

Manaca in Rheumatism.

THE clinical report from Charity Hospital on manaca in the treatment of rheumatism, which we publish under another head in this issue, will not fail to receive the careful and thoughtful perusal which it merits. The subject is one of unsurpassed practical interest. Rheumatism is a veritable opprobrium of medicine and the dictum of Abernethy that six weeks is the most successful remedy which had been discovered for it in his day, has not a few supporters to-day, who are able to adduce testimony in support of their position from the records of general practice. It is but just to say, however, that the vast preponderance of professional opinion is now opposed to mere expectancy in the treatment of rheumatism. Although there are still cases which obstinately resist the therapeutic means directed to them, it is unquestionably a fact that in the vast majority of instances the duration of the attack may be shortened and the symptoms greatly ameliorated by judicious medication, while the promptness with which the inflammatory process is occasionally aborted lends color to the belief that when treatment fails the fault lies not so much in the patient as in the physician. More recent developments in connection with the disease, and notably those by Dr. Bartholow, to which we referred in our last, are, we think, calculated to let in a flood of light on its therapeutics. They tend to show that the nature of the rheumatic diathesis, and the inflammatory explosion are closely dependent as to their nature, on the temperament of the person in whom they manifest themselves. This hypothesis, if, indeed, it shall not prove to be much more than a hypothesis, accounts for the variability in the effect of the same drug in different cases. A drug whose exhibition is followed by the most satisfactory results in one case proves worthless, if not indeed positively harmful, in another, and *vice versa*, while another drug which may have no effect on the progress of the disease in either case, may act like a charm in a third. We see illustrations of this fact in the cases reported by Dr. Gottheil in which he made indiscriminate use of manaca. We cannot but regret that this competent observer did not make a note of the temperament of the cases in which the drug proved respectively beneficial, worthless and harmful. Under which of the following three heads would he class the cases in which the manaca proved beneficial?

"1. Those of considerable bodily vigor, spare habit, good muscular development, and having a distinct family history of neurotic or rheumatismal disorder.

"2. Obese subjects, addicted to malt liquors and good living, with, but sometimes without, an inherited predisposition to rheumatic diseases—the gelatinous descendants of albuminous parents.

"3. Pale, feeble, anæmic subjects, depressed by poor diet and bad hygienic surroundings, including dampness and bad air."

Manaca is unquestionably a remedy of value in one or more of these classes of cases. The classification embraces all the subjects in whom the disease is liable to occur. In which class does manaca find those most amenable to its action? This question should be kept prominently before the experimenter who aims to fix the exact place of the drug in the list of anti-rheumatics.

New Remedies Abroad.

THE past year has been marked in the history of the newer drugs with which the profession of this country have for some time been familiar, by their sudden rise into a considerable degree of popularity in Great Britain and on the continent. The transatlantic profession are very conservative and especially so as to matters of American origin. It is to be feared that there has existed in the past too much cause for suspicion in the latter direction. This country has been brought into disrepute through concerns whose stock in trade consisted too largely of that "Yankee sharpness" which has become proverbial abroad, and reputable manufacturers have been correspondingly handicapped in their efforts to secure a reciprocity of that recognition which Europeans are accorded here. The prejudice which has existed abroad against American pharmacists has, doubtless, been traceable to the proprietary, patent and copyrighted compounds or nostrums with which this country has been deluged. There are, however, dawning signs of recognition abroad that there is such a thing as legitimate pharmacy here, and that all is not humbug that is American. The magnificent display of American pharmaceuticals at the late Vienna exposition has done much to place this country in a proper light, and the interest which the European profession has begun to take in the matter of new drugs of American introduction is very suggestive.

Our foreign exchanges contain many references to new drugs of cis-Atlantic origin, and while they evince a growing familiarity with their properties it is not to be wondered at that occasional mistakes are made. A recent number of a prominent English journal, for instance, contained the statement that "Jamaica dogwood has not proven a successful substitute for opium." The profession of this country do not need to be informed that it was never claimed that it is a "substitute" for opium, in any full or comprehensive sense of the term. There are, however, certain conditions in which it has been customary to give opium, as insomnia, nervous irritability, irritative coughs, etc., and in cases of subacute pain, in which Jamaica dogwood may profitably take the place of opium. The great advantages, immediate and remote, of Jamaica dogwood in these conditions, no longer require argument or facts to establish them in the minds of the profession of this country, and it is unfortunate that this invaluable drug should be improperly presented to the profession abroad through their influential journals. It has a well-defined place in the materia medica, and any attempt to fit it into a place where it does not belong, is an act of injustice, since its failure to thus fit is apt to bring it into disrepute and forestall its further trial in its legitimate province.

Gaillard's Medical Journal.

IN 1866 we first became acquainted with Dr. E. S. Gaillard through the Richmond Medical Journal, then published in Richmond, Va., of which he was editor, and had associated with him Dr. W. S. McChesney. In 1868 the partnership was dissolved, and Dr. Gaillard became sole proprietor and editor, and Louisville, Ky., made the place of publication. Soon after our acquaintance became a personal one, and has been especially of that nature since we assumed the editorship of the THERAPEUTIC GAZETTE. Owing to a physical disability the doctor was unable to practice his profession as others could, and he was hence, in a measure, compelled to assume the editorial pen, and we know of few, if any, who are his superior in that capacity. In his efforts to advance medical journalism, he published the Bi-weekly in connection with the Richmond and Louisville Medical Journal, but owing to illness was, after a time, obliged to give it up. As two other medical journals were published in Louisville, that field became too contracted, when, acting under the advice of friends, Dr. Gaillard removed to New York city with the double object of recuperating his health, and publishing the journal. But few weekly medical journals were then published, and the field seemed to him favorable for another, and Gaillard's Medical Weekly was at once issued. There soon, however, developed a "craze" among publishers for weekly medical journals, and up to July, 1883, there were 13, and soon to be 14 weeklies in the United States. The fact also developed itself that "weeklies are of the character of newspapers, and have not space enough to present original papers in one issue." The reviews had to be condensed, and the editorials to be written in haste, and without due reflection and care. The news department of a weekly is its chief advantage, but news does not advance the science and art of medicine, and there is but little of advanced information that would suffer were it to be kept for the monthly medical journal. For these reasons among others, and the fact that there was no medical monthly in Boston, none in New York City, none of large size in Philadelphia, none in Louisville or Cincinnati, and only one each in Chicago and New Orleans, and two in St. Louis, Dr. Gaillard, with much regret, closed the publication of his Weekly, and has reissued his Monthly, which he has increased in size, so that each issue will contain 120 pages of royal octavo. It is handsomely printed, and the September number, which is before us, is overflowing with choice matter. For nearly 18 years has Dr. Gaillard been a medical editor; his work speaks for itself. We believe the change he has made will prove a beneficial one to both his readers and himself, and we cordially wish him that success to which his talents entitle him, and which such a periodical as Gaillard's Medical Journal ought to receive.

Is It Possible?

THE profession of this country is wont to look up to that of the older transatlantic, and particularly European, countries as patterns for their emulation in all things. It is true the greater freedom of inter-communication which has characterized late years, has had much to do in changing our opinions regarding our transatlantic brethren in many regards, and those who are most familiar, through actual mingling, with the profession abroad, are not disposed to place the profession of this country in a secondary position in any respect. The impression, nevertheless, very widely prevails that there exists abroad a certain tone the result of superior education and refinement, to which, perhaps, too large a proportion of the profession of this country are strangers. In view of this

fact, the following excerpt from a secular paper, the Liverpool Daily Post, will be quite a revelation to our readers. It was written on the occasion of the recent meeting of the British Medical Association in Liverpool:

"The British Medical Association," says this secular contemporary, "has a little surprised the people of Liverpool in one particular. Individually its members are most gentlemanly examples of the great professional class. Collected for festive purposes, they make an excellent show. Set to listen to the formal addresses, they, or those of them who do not slip out to do some sight-seeing, bear with what is read to them without, at least, indecorum. But the doctors seem quite incapable of rational discussion. Impatience has been their principal characteristic all the week, during the business of the sections. Umbrellas must have been worn nearly to the stump in drowning the voices of speakers, while exclamations indicative of great rudeness and little wit, have interrupted almost every member who tried to express controverted ideas to the meeting. Such incidents as these very much lower the tone of the proceedings, and tend to injure the reputation of the association. Row and tumult are bad enough when the perpetrators of such inconsiderate demonstrations are medical students or under-graduates, but in representative men of maturity, holding up the honor of a noble profession under the close observation of a great and quick-witted community, these escapades are egregiously foolish and unpardonably out of character."

A Confusion of Cognomens.

THOSE of our readers who are also readers of the Journal of the American Medical Association, will have noticed in a recent number the communication of one Dr. G. R. Henry, of Burlington, Iowa, in which that gentleman assumed to read the venerable editor a lecture on the subject of editing a journal, dwelling particularly on the conduct of the advertising department and objections to the nature of the advertisements which have been admitted to the new journal. They will also have read the editor's reply, and we are thus relieved of any necessity which might have obtained, of showing up the unfairness and illnature of the communication. Dr. Henry is unquestionably a dyspeptic, and the pathognomonic symptoms of a disordered stomach which he has revealed do not in themselves merit comment. Our notice of his letter here is merely for the purpose of introducing a reference to the ludicrous confusion of names of which the gentleman is guilty, and which confusion was, doubtless, the cause of his rushing so precipitately into print. In an interview with a representative of this journal he, very properly, deplored the tendency of medical journals to admit to their pages the advertisements of patent medicines. As an illustration of this tendency he cited the appearance of Warner's advertisement in the Journal of the American Medical Association. Already he said Warner's Pills and Granules are advertised there and it would not be long, he predicted before the same firm would find room in that medium for an advertisement of their "Warner's Safe Liver and Kidney Cure!"

This confusion in the mind of a presumably wide-awake physician, of the well-known firm of Wm. R. Warner & Co., of Philadelphia, with that of H. H. Warner, the much advertised nostrum-maker, of Rochester, seems well nigh incredible. The display of a little more familiarity with current events, would improve Dr. Henry's reputation as an authority on the question of how to run a medical journal.

Gold Medal and Foreign Honors to Parke, Davis & Co.

THE following extracts are from the Monthly Magazine of Pharmacy, Chemistry and Medicine, whose correspondent was in attendance at the great International Pharmaceutical Exhibition at Vienna. They are their own explanation:

"Since I have mentioned America, I should not forget to say that Messrs. Parke, Davis & Co., of Detroit, have an important exhibit here, in which we find represented almost all that the apothecary's art can do in America. In the absence of important exhibits by English and French houses, the Germans are evidently pleased at the extent and beauty of the American display. A great portion of it is devoted to newer American drugs, which are as yet very little known in Europe, and are classed as raw products from which the pure active principles have not yet been extracted."

"We are pleased to note that the same firm have been awarded the gold medal of the First Viennese International Pharmaceutical Exhibition, held at the Austrian capital from August 11th to 28th, inclusive."

Book Reviews and Notices.

Elements of Pharmacy, Materia and Therapeutics. By Wm. Whitla, M.D., Gold Medalist, Queen's University, Ireland. Licentiate of the Royal College of Physicians, Edinburgh. Licentiate of the Apothecaries' Hall, Dublin, Physician to the Ulster Hospital for Sick Children, etc., etc. With lithographs and woodcuts.
London: Henry Renshaw, 356 Strand.

The aim which the author had in view in the preparation of this work was to give to the student of medicine such information in a concise form as he has, generally, to sift out of two or more of the larger manuals. Lest it might be inferred from this statement that the book is one of the "vest-pocket" kind, which are to be condemned as a class, we will take occasion to say that it contains, including a very complete index, 524 pages of duodecimo size. It is a model of condensation, and it would be difficult to conceive a better utilization of space or the possibility of communicating more information within its limits.

The first hundred pages or so of the book are devoted to pharmacy. This will prove particularly valuable to the country practitioner whom circumstances compel to dispense his own drugs, while it may also be read by the druggist in either country or city with profit. No attempt is made at the classification of drugs, but the articles treated of are arranged in alphabetical form. Considering the size and nature of the work, this arrangement is probably more advantageous than would be an attempt at the classifications of more systematic treatises.

We are pleased to see a recognition of the non-officinal remedies, among which we find mentioned a very considerable number of our indigenous drugs.

The division of the work devoted to therapeutics is

characterized by great practicality, and must prove valuable as a vade mecum, particularly to the younger practitioner.

An exceedingly valuable chapter is that which is devoted to prescription writing, and we take great pleasure in endorsing the author's excellent instructions under this head. This is a part of the art of medicine which is too much neglected in the education of the physician, and we venture the opinion that the great mass of the graduates from our medical colleges go forth with no definite ideas on the subject of correct prescription writing. To the physician, young or old, who has not had definite instructions in this direction, this chapter in Dr. Whitla's book would prove particularly valuable.

The remainder of the book is devoted to chemical reactions and tests.

On the whole the work is one which could scarcely be too highly recommended to all, excepting only the limited few in whose minds its statements have become crystallized through long years of experience and careful study. While the book is written from the standpoint of the British Pharmacopœia, it is scarcely less valuable on that account to the profession of this country.

The Medical Digest, or Busy Practitioner's Vade Mecum; Being a means of readily acquiring information upon the principal contributions to medical science during the last thirty-five years. By Richard Neale, M. D., London, Member of the Dutch Medical Society of Batavia, Java. Second Edition.

London: Ledger, Smith & Co., St. Mary Ave.
Detroit, Michigan: George S. Davis.

Those of our readers who are familiar with the plan of the Index Medicus, edited by Dr. J. S. Billings, U. S. A., will be able to appreciate with little explanation the nature of the work before us. Instead, however, of being an index to all medical literature, as is the Index Medicus, it professes to be a Digest of only a certain number of periodicals, these periodicals being such as the author himself has been in the habit of reading during his professional life of upwards of thirty-five years. The works to which references are most frequently made are the British and Foreign Medico-Chirurgical Review, from 1848 to 1877, the Lancet, from 1837 to 1881, the Medical Times and Gazette, from 1850 to 1881, the British Medical Journal, the Practitioner, the London Medical Record, Ranking's Abstract, from 1845 to 1873, and Braithwaite's Retrospect, from 1874 to 1881.

The plan of the work is admirable, and if it offered no further advantage, it would be a profitable investment for the young practitioner who should purchase it simply as a guide to the best method of arranging and utilizing information on the different subjects which he comes across in the course of his reading. The work as a whole is calculated to so impress one with a sense of the vast amount of labor which has been expended on it, that he is inclined to despair of his ability to ever produce one like it. When, however, he recalls the fact that it is the result of thirty-five years' labor, the possibility of the preparation of a similar work for his own use, by the ordinary medical practitioner who has cultivated a systematic habit of reading, becomes clear.

While the Digest must be valuable principally to those who have the files of the journals mentioned within reach, its references are of such a nature that a perusal of it must prove profitable even in the absence of these journals. One cannot look through its references under the head of any particular affection without receiving valuable suggestions which would probably not have been made by even an extensive reading on the subject. A perusal of it is, moreover, sufficient to stimulate the young practitioner to enter upon the preparation of a similar work for his own use, while it is sufficient to cause a sigh of regret from the older practitioner who has neglected during the long course of his reading to catalogue his information after the same manner. It is one of those books the absence of which makes a library incomplete.

The Principles and Practice of Surgery. Being a Treatise on Surgical Diseases and Injuries. By D. Hayes Agnew, M. D., LL. D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Profusely illustrated. Vol. III. 1883.

Philadelphia: J. B. Lippincott & Co.
London: 16 Southhampton Street, Covent Garden.

This volume completes a system of surgery that every American surgeon should be proud to be the possessor of. Its writing has occupied the leisure hours of more than five years. The first and second volumes were very favorably received by the profession and were highly endorsed and recommended by the medical journals of our own country as well as by those abroad.

The illustrations are for the most part original and have been executed in an artistic manner. The volume treats of the following subjects, which, with what has been given in the preceding volumes, makes it complete in all its parts: 1, Surgical diseases of the larynx and trachea; 2, diseases and injuries of the nose, the naso-pharyngeal regions and the associate parts; 3, diseases and injuries of the eye and appendages; 4, diseases and injuries of the ear; 5, malformations and deformities—tenotomy in the treatment of orthopœdia; 6, affections of the muscles, tendons, bursæ and aponeuroses; 7, surgical affections of the nerves; 8, surgical affections of the lymphatic system, skin and subcutaneous connective tissue; 9, syphilis; 10, tumors; 11, diseases of the mammary gland; 12, electricity in its application to surgical therapeutics; 13, operations for nerve-stretching; 14, massage. These subjects have all been discussed by the author with the most modern light and hence it represents the most approved knowledge of the day as embraced in the science and art of surgery.

The young surgeon with this work in his library and well studied, cannot fail to be thoroughly posted, and beneficial suggestions can be obtained from it by those surgeons who have had even years of practical experience.

It is printed with clear type on strong white paper which makes it exceedingly agreeable to the eye. The illustrations are 2,198 in the whole work and each volume has a full and complete index. The publishers have handsomely done their part and we do not hesitate to cordially commend the entire work to the student and surgical practitioner.

A Practical Treatise on Impotence and Sterility and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A. M., M. D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia; Formerly President of the Pathological Society of Philadelphia; Author of a Practical Treatise on Tumors of the Mammary Glands; Fellow of the Academy

of Surgery of Philadelphia, etc., etc. Second edition thoroughly revised with sixteen illustrations. Price, $1.50. Philadelphia: Henry C. Leas' Son & Co. 1883. Detroit: John Willyoung.

This work has been favorably received by the profession and passed successfully the criticism of the medical press. It has been translated into the Russian language, and the fact that the first edition was so thoroughly appreciated by the profession, that the publishers have been compelled to issue this the second edition in so short a time, is *prima facie* evidence of its value.

There is no one subject outside of general medicine in which so much interest is taken by both the professional and non-professional world as that which has relation to the diseases of the generative system in both male and female, and any light from whatever source is readily seized upon. The reason is obvious and natural. The growth of the state and the happiness of families depend in a great measure upon the integrity of the generative organs.

Our author has confined himself to those conditions of the male which renders him impotent and sterile and he satisfactorily shows that the male is, as a rule, at fault in at least one instance in every six.

The female has generally been considered at fault, and our author demonstrates the fact that both should be examined before a verdict is rendered. The subject is discussed under four heads: 1st, impotence; 2d, sterility; 3d, spermatorrhœa; 4th, prostatorrhœa. Impotence is defined as an inability to perform the sexual act. Sterility as an absence of the fecundating properties of the semen emitted. Spermatorrhœa as a constant escape of the seminal fluid without erection or introduction into the female generative organs, and prostatorrhœa as a discharge from the urethra of the secretion of the prostate gland, especially during defecation and micturition.

The etiology and treatment of these different conditions are given with their probable results. Our space does not permit us to quote from the text. The entire book should be read to be appreciated. We commend it to our readers as a valuable exposition on the subject on which it treats, and as the latest authority, for as such we recognize it. It is a handsome octavo of 176 pages with a full index, printed in large type on excellent paper.

Fashions of the Day in Medicine and Science. A few more comments. By H. Strickland Constable, author of "Our Medicine Men." Kingston-Upon-Hull: Leng & Co.

The motto which the author has adopted for his work is a quotation from Dr. L. Beale: "We doctors vacillate from one extreme to another and seem to work in recurring circles." Were we called upon to furnish evidence of the truthfulness of the first proposition of this motto we could probably not do better than to refer to the work before us, for certainly the author is one of the most extreme individuals which it is the lot of physicians to meet. The book is of that nature which scarcely permits of review or merits criticism. It is difficult for us to conceive the object for which it is written. The first portion of it is devoted to an advertisement of a work by the same author, and which seems to have received a vast amount of adverse criticism. Another chapter is devoted to a tirade against vaccination, and is characterized by more dogmatic and unsupported statements than are usually met with in printed form. The germ theory of disease then comes in for the author's characteristic ridicule and abuse. Chapters are also devoted to the alleged confusion that reigns in the scientific mind of the period, and the confused ideas which are alleged to exist in matters of religion and morality. Sir Thos. Watson is then hauled over the coals on account of his "nine specific fevers and contagion," and the work closes with a characteristic denunciation of vivisection.

We are glad to notice that the title of M. D. is not attached to the author's name. The book is evidently written by a misanthrope who takes pleasure in railing at what he considers to be wrong in the practices of the great bulk of humanity. We are charitable enough to believe that it was not intended, by its author, to fall into the hands of the professional reader.

Transactions of the Michigan State Medical Society for the year 1883. No. iii., Vol. VIII., pages 200.

Much of these Transactions is taken up in matters pertaining to the society. The address was given by the president, Dr. G. W. Topping. It treated of matters chiefly of local interest, and called out a general discussion, in which the relation of the Medical Department of the University to the medical profession of the State was critically analyzed. Papers were read by Dr. Brodie, of Detroit, on "Sanguineous Tumors of the Scalp;" Clinical Notes on Errors of Refraction, by C. J. Lundy, M. D., Detroit; Foreign Body in the Ear, with an unusual history, by A. R. Smart, M. D.; Ulcers of the Cornea, by E. Smith, M. D.; Ætiology of Urethral Inflammation, by H. J. Reynolds, M. D.; Epidemic Waves of Diphtheria, by H. B. Baker, M. D.; Timely Catharsis, by T. N. Reynolds, M. D.; Water and Its Relations to Health, by Julius A. Post, M. D.; Pro Bono Professionis, a poem, by E. B. Ward, M. D. The papers, as a rule, were of more than ordinary interest, and the attendance was larger than usual. Dr. Whelan, of Hillsdale, was elected president, and Grand Rapids the next place of meeting. Dr. Geo. E. Ranney is permanent secretary; residence, Lansing, Mich.

The Collective Investigation of Diphtheria as Conducted by the THERAPEUTIC GAZETTE, Detroit, Michigan, with editorial summary by J. J. Mulheron, M. D. Detroit, Mich.: Geo. S. Davis, medical publisher.

This is an octavo volume of 120 pages, and is the result of answers to certain questions propounded to the readers of the GAZETTE. One of the editors of this journal has made a summary of the answers, which is appended. The reader can make his own, and, if unprejudiced, may arrive at a different conclusion from that given. An index of contributors is given. The whole forms a volume of 120 pages, and is a fair expression of the views held by practical men on the question of diphtheria. By application to the publisher it can be had in paper cover, flexible lids, or cloth.

Therapeutic Progress.

The Beef Tea Fallacy.

From time immemorial beef tea has been one of the standard beverages and nutriments of the sick room, and were its history fully written, we have

little doubt that it would show a great mortality attending its use. By filling the stomach to distension it is capable of allaying hunger, while the patient may be literally starving, and,doubtless many a fatal case of disease of an adynamic type is ascribable to the fallacious food with which it has been sought to support the vital powers, rather that to the disease itself.

The process of nutrition, thanks to our improved knowledge of physiology, is largely a mechanical process, and the success of efforts at nutrition is quite as largely dependent upon the quantity as upon the nature of the nutriment ingested. In this regard nutrition differs very much from medication. A very small amount in weight of medicine may work very great changes in the behavior of the body. In the matter of nutrition, however, it is a matter of grains and ounces. A small quantity cannot nourish a great deal, no matter what the substance. The daily demand of the body is for so many grains of carbon, of hydrogen, of nitrogen, etc , which must be introduced in such compounds as can be made available by the body. To constitute an article a food it must contain proteid material, organic non-nitrogenous material and mineral salts, and a nutriment must contain at least one of these constituents. From this definition it will be seen that a nutriment is not necessarily a food, for even a mixture of nutriments, unless it contain a due proportion of the proteids, will not sustain life and build up tissue.

The above declaration of the distinction between a nutritive and a food, and the elements necessary to constitute each, is taken from an article on the subject of beef tea, by Dr. G. Baumgarten, professor of physiology in the St. Louis Medical College, and published in a recent number of the St. Louis Courier of Medicine. Prof. Baumgarten makes this definition the foundation of some experiments, upon the results of which he exposes the fallacy of beef tea and all extracts or products of meat by whatsoever name they are presented, in which the muscular fibre is not dissolved or otherwise admixed. He prepared with greatest care a beef tea from half a pound of select lean beef. The liquid thus obtained was turbid, of an excellent odor and taste, and after standing divided into a clear straw-colored liquid, with a very little fat on top, and a sediment of a reddish-brown tint. In other words, the liquid was an aqueous infusion of muscle in which the hæmoglobin of the muscle and blood had been subsequently coagulated by heat, though it remained mechanically mixed with the liquid.

He also prepared a beef broth from a soup-bone by immersing it in cold water, heating slowly and boiling for some hours. The result of the latter was a strong palatable bouillon, the basis for an excellent soup, gelatinizing slightly on cooling. These two products, each in its way, contained, in common parlance, the strength one-half pound of meat. In order to determine precisely what strength there was in these preparations he submitted them to a test calculated to determine the amount of albumen and proteids contained in them. The beef tea was divided into the clear portion and that which contained the sediment. The clear liquid was feebly acid; tannin gave a very faint precipitate, showing the absence or bare trace of gelatin. This proved that in the preparation of the tea undue heat had not been used. Nitric acid gave no precipitate, nor on boiling, the xantho-protein reaction. The copper test for proteids proved negative. Strongly adidulated with nitric acid it was made slightly opalescent by potassium ferrocyanide. Acetic acid and sodium sulphate solution on boiling produced no precipitate. These tests are very convincing of the absence of proteids.

The portion of the tea containing the precipitate was diluted with water rendered alkaline with caustic soda, and warmed in order to dissolve any coagulated proteids that might be present. Most of the precipitate was dissolved, the solution being of a mahogany-brown color, from dissolved hæmatin. On diluting and carefully neutralizing, a slight precipitate was thrown down, which, collected upon the filter and carefully dried, weighed 3 grains. This precipitate contained all the proteid present in the sediment of 4 fluid ounces of beef tea in the shape of an alkali-albuminate, for the filtrate was free from proteids. Another portion of sediment was mixed with artificial gastric juice, and kept at a temperature of 90 to 105 degrees for one hour. Most of the sediment was dissolved. In the filtered liquid the copper test gave faint, but distinct reaction, showing traces of peptones present, that is, confirming the results of the preceding experiment in showing the presence of a small quantity of albuminous substance in the sediment. Besides this trifling amount of proteid material and of fat, (which latter in practice is guarded against with great care), the beef tea then contained only the salts of the muscles, the hæmatin and allied pigments, traces of sugar perhaps, some lactic acid, and the nitrogenous extractives—creatin and its congeners. As the original half pound of muscle contained about 40 to 60 grains of the salts, and 10 to 12 grains of the nitrogenous waste products, the beef tea certainly contains no more.

Look at the meat after the beef tea has been prepared from it. The bulk of the solids of the meat is myosin, which is the substance we intend to pay for when we buy butcher's meat; the substance we mean to feed upon when we eat the beef steak. After the preparation of beef tea this myosin is thrown away, a little the worse for its treatment, a little tough, insipid, deprived of its salts, yet containing all the strength of the meat. The tea has removed from it no nutritious substance, excepting only the mineral salts. Four fluid ounces of beef tea were dried in a water bath, not quite perfectly, in order to avoid any possible destruction and hence loss, but rather to allow the error to tell in favor of the beef tea. The residue weighed 51 grains, that is, four fluidounces of beef tea contained 51 grains of solid matter.

Prof. Baumgarten's experiments are the most convincing with which we have been favored for some time,of the fact of the almost absolute uselessness of beef tea and the various extracts and essences of beef which are largely sold, and which the people, and too large a proportion of the profession, are made to believe to be foods or substances capable of sustaining life and repairing waste of tissue. Beef tea and the various extracts and essences referred to, are useful only in so far as they stimulate appetite and facilitate the digestion of such food as may be given in connection with them. This is their only legitimate function, and when the are depended upon to the exclusion of true food, the result is only disaster to the confiding patient.

Piscidia Erythrina as an Anodyne and Hypnotic.

Jamaica dogwood has succeeded in engaging the attention of the profession of Germany, and the journals of that country contain frequent references to it, in terms strongly corroborative of the claims made for it, on the basis of physiological and therapeutical experiments, in America. The latest important article is from the pen of Dr. Otto Seifert, privatdocent in Wurzburg, and is published in the Berliner Klinische Wochenschrift. We are indebted for the following abstract and translation to Dr. C. W. Tangeman, of Cincinnati:

Extractum Piscidiæ as a Hypnotic. Piscidiæ Erythrina (Jamaica dogwood), belonging to the family leguminosæ, is indigenous to the West Indies and the mountainous regions of the Antilles, but especially to Jamaica. The bark of the root was used by the American Indians as a narcotic and a fish poison, during the latter part of the 18th century. The enterprising firm Parke, Davis & Co., of Detroit, in their report on the investigation of new drugs, base their statements chiefly on the investigations of Prof. Ott, of Pennsylvania. Ott experimented mainly on rabbits, to determine the physiological action of the drug, and comes to the following conclusions:

1. Extractum piscidiæ is a narcotic, not only for small animals but also for large ones.
2. It dilates the pupils.
3. It accelerates respiration at first, and then it suddenly drops.
4. It produces salivation and profuse diaphoresis.
5. It reduces the heart's action, and in large doses causes general paralysis, and death by asphyxia.

The action of morphia and extract piscidia are somewhat similar. Like morphia the latter causes somnolence and paralysis, but the former does not cause dilatation of the pupil. It seems, according to the experiments and results of Ott, that piscidia is a powerful remedy in the relief of pain and the production of sleep. It has been employed in spinal irritation, and in chronic cough where opium could absolutely not be tolerated. The use of a fluid extract in 3.0 doses has been recommended, or a solid extract given in doses of 0.3–0.9.

Hart* has prepared the active principle of piscidia erythrina, piscidia ($C_{29}H_{24}O_8$), which is easily soluble in alcohol and ether, but until now no experiments have been made with the alkaloid.

Firth† claims to have obtained excellent results with piscidia erythrina in delirium tremens, in some instances of which its action is almost magical, even in cases where other narcotics, such as chloral, bromide of potassium and opium have failed.

The dispensary of the Julius Hospital received a number of samples of new drugs from the above named firm, and among them was a sample of piscidia erythrina. I administered it to a number of cases under the direction of Herr Geheimrath Gerhardt, and while I was assistant at the hospital, Cremer prepared a solid extract in the following manner: 100.00 cort. radic. piscidiæ erythrinæ, c. 1000.0, spts. dilut. per dies octo exprim. et filter et ad. consist. extr. sicc. reduc. The extract obtained in the above manner was dry and in powder form, slightly bitter, but not unpleasant to the taste. It was given in doses of 0.25–0.5 in robust individuals, and produced a sound sleep, and a sensation in the head similar to the effect following the use of a dose of morphine, with slight dilatation of the pupil, but it produced no change in the temperature or pulse, or brought about any unpleasant after-effects, such as salivation or diaphoresis. According to Ott's recommendation of the drug in chronic cough, I administered it to a number of phthisical patients who had been taking morphine for some time for the relief of their nocturnal cough without any good effect. The cases were of a severe type, two of pneumo-laryngo-phthisis, and one case of phthisis pulmonum with a very obstinate cough. 025–0.35 extract piscidia caused quiet sleep sometimes the whole night with coughing once. Unpleasant secondary effects such as nausea, dizziness, heaviness of the head, change of the pulse or temperature, dilatation of the pupil was not noticed in a single instance.

To the next class of cases of phthisis pulmonum, eight in number, opiates had not been given to the patients, for some time; now they all received from 0.25 to 0.5 extract piscidia with the effect of stopping the very annoying cough that is so common in this kind of patients; it produced sleep without any untoward secondary effect. One of the above cases suffered with night sweats. Atropin in 0.001 doses was given every night and the sweats were checked; if by chance the atropin was omitted for one night they returned, but the combination of the two remedies always had the desired effect of checking it again. In one case only where the patient had taken the remedy for a number of weeks dilatation of the pupil was observed. 0.5 extract piscidia was administered, to an individual suffering from dilatation of the stomach, who was very restless at night, but after each dose he would sleep soundly all night, and without the occurrence of bad after effects.

In the next instance dogwood was used in a case of chronic nephritis where a subcutaneous injection of morphine had to be made to control the severe pain in the head, and also for sleeplessness; 0.35 had a very favorable effect; patient hesitated for some time to discontinue injections but was very well satisfied when he learned the effect of the substitute. Unpleasant results were recorded in one case of ulcer of the larynx and in this instance morphia sulphate in 0.01 doses gave better satisfaction than dogwood in 0.5 doses. The remedy proved absolutely powerless in the instance of a patient suffering with a kind of a vague pain in the legs for which no cause could be assigned. The drug was pushed to 0.7 gramme, without any effect save that the patient stated that he felt more uneasy after its use.

Here Seifert sums up his results and comes to the following conclusions: Extract piscidia erythrina in doses ranging from 0.25 to 0.5 grm., especially in phthisical patients with an annoying cough, will yield very good results without causing in any manner unpleasant after-effects. Cases frequently present in which opiates cannot be used and we are compelled to make some change. In such cases we can safely introduce this remedy into the physician's armamentarium.

*Therapeutic Gazette, No. 3, 1883.

†Therapeutic Gazette, No. 3, 1883.

The Therapeutic Use of Hot Water Taken Internally.

This is the subject of a very interesting article by Dr. Ephraim Cutter in Gaillard's Medical Journal.

The article starts out with a resumé of the history of this therapeutic measure. It originated in 1858 with Dr. James N. Salisbury, who undertook a series of extended experiments with a few to demonstrating the correctness of the theory on the strength of which the practice is based. Its object is to remove from the stomach the results of processes complicating digestion, but not necessarily a part of it, the principal of these processes being fermentation. The results of fermentation in the stomach are acetic, butyric, hydrosulphuric, lactic and saccharic acids, and sulphide of ammonium vegetations and yeasts. The absorption of these gives rise to a variety of constitutional disturbances, which may even result in organic trouble, the seat of this organic trouble being the lungs, the liver and the kidneys, or other organs. It is probably generally well known, that Dr. Salisbury associates the absorption of these products of fermentation very directly with the causation of phthisis pulmonalis, and it is upon the assumption of this connection of cause and effect that he bases his well-known treatment of this disease by raw meat diet and copious washings of the stomach with hot water. Dr. Cutter is an enthusiastic disciple of Dr. Salisbury, and has done probably more than Dr. Salisbury himself to familiarize the profession with the latter's peculiar views and practices. The article gives explicit directions for the carrying out of this hot water treatment:

1. The water must be hot—not cold or lukewarm. The reasons for this are principally that cold water depresses, and that lukewarm water excites vomiting. By hot water is meant a temperature of 110° to 150° Fahrenheit, such as is commonly liked in the use of tea and coffee.

2. As to the quantity of water: The commencing amount should not be less than half a pint, which amount must be gradually increased with the capacity of the patient, until the specific gravity of the urine stands at 1015 to 1020, the best standard of health. If on examination of the urine the specific gravity stands at 1030 more hot water should be drunk. On the other hand, should it fall to 1010, the amount should be decreased.

3. The time for taking hot water is an hour or two before each meal and half an hour before retiring.

4. The water should not be drunk too fast. It should rather be sipped, so that the stomach may not be so rapidly distended as to make it feel uncomfortable.

5. The length of time during which this hot water treatment should be continued is six months, this time being usually required to thoroughly wash out the liver and the intestines.

6. Should it be desired to add to the palatability of the hot water it may be medicated with clover blossom tea, ginger, lemon juice, sage, salt, and even occasionally sulphate of magnesia. Where the thirst is intense a pinch of chloride of calcium or nitrate of potash may be added.

7. The amount of liquid to be drunk at a meal should not exceed eight ounces. This amount should not be exceeded, in order that the gastric juice may not be unduly diluted, or that the contents of the stomach may not be prematurely washed out.

It is claimed that under this treatment the fæces become black, the discoloration being due to the washing of the bile down its normal channel. While this blackness may last for more than six months the fœtid odor of ordinary fæces is abated and the smell approximates that of the fæces of healthy suckling infants. The urine becomes as clear as champagne, free from deposit on cooling and free from odor. The various secreting organs are said to improve as to their functions and a general feeling of well-being takes possession of the hitherto overladen and consequently inactive body.

The following is a summary of the general conclusions on the therapeutical drinking of hot water as given by Dr. Cutter: He claims it to be the foundation for all treatment of chronic diseases. It excites downward peristalsis. It relieves spasm or colic of the bowels by applying the relaxing influence of heat inside the alimentary canal, just as heat applied outside the abdomen relieves. It dilutes the ropy secretions of the whole body and renders them less adhesive, sticky and tenacious. It is an inside bath, It dissolves the abnormal crystallized substances that may be in the blood and urine. It washes down the bile, mucus, yeast and waste, and thus leaves the stomach fresh and clean for the function of digestion. It promotes elimination everywhere.

It is necessary in conducting this treatment that the stomach should be rid of the hot water before meals, and this for reasons which are too obvious to require mention.

While we think it possible that Dr. Cutter has attached undue value to this means of cure, we cannot dispute the fact that the number of cases to which it is applicable is great. We should think it peculiarly applicable in the case of those who habitually gorge themselves, and whose systems are always overloaded with matter which the emunctory organs, constantly overtaxed, are unable to eliminate from the system. The thorough washing out which copious draughts of hot water would favor must be very beneficial in cases of this kind.

Untoward Effects of Acidum Tannicum.*

The susceptibility to the action of tannic acid varies with the individual. Thus Tully, who for a week took 0.6 grammes (gr. x) of tannin daily, experienced nothing further than slight nausea and anorexia, while Henning,† after taking but 0.2 grammes (gr. iij), experienced pain in the stomach and bowels, a coated tongue, eructation, thirst, tenesmus, and an aggravation of a habitual hæmorrhoidal congestion.

Roller‡ observed after a large dose of tannin, taken for the relief of a diarrhœa, pain in the stomach and abdomen, violent emesis and a constipation which continued for fourteen days with slight fever. After the constipation was relieved the stools were for a time mixed with blood and pus. This was probably due to a caustic action of the tannin on the gastric intestinal nerve.

In order to guard against such symptoms with a certainty, and to permit of the prolonged employment of tannin, L. Lewin§ recommends the admin-

*Taken from Lewin on Untoward Effects of Drugs, English Translation issued by George S. Davis, Medical Publisher, Detroit, Mich.

†Hennig, Archiv. f. physiol. Heilkunde, Bd. XII., 1853.

‡Roller, Wiener Medic. Wochenschrift, 1865, 97.

§L. Lewin, Untersuchungen über Wirkung und Verhalten des Tannins im Thierkörper, Virchow's Archiv, Bd. 81, 1880.

istration of either the albuminate of tannin or an alkaline solution of tannin. The first is readily prepared by dissolving the quantity of tannin ordered in a little water, precipitating it with a solution of albumen, and then adding an excess of albumen until the albuminate thus formed is dissolved. For a solution of 2 grammes (gr. xxx) of tannin in 100 (ʒ iij) grammes of water, the white of one egg dissolved in 100 ccm (ʒ iij) of water, and then filtered, is sufficient. The alkaline solution of tannin may be prepared by adding to the solution of the desired quantity of the tannin in water, carbonate of sodium, until the reaction becomes feebly alkaline, or by the addition of albumen to it, and by adding the carbonate of sodium until the albuminate of tannin again dissolves. These solutions may given as follows:

(1). Tannin albuminate:

℞ Solut. acid. tannic, 2%, 100 grammes (ʒ iij).
Adde agitando.
Sol. albumin. ovi 100 grammes (ʒ iij).
M.

This solution has a milky appearance, a very slightly astringent taste, and is well borne by even small children. Should more tannin than 2:100 be desired, the proportion of albumen must also be increased.

(2). Tannate of Soda:

℞ Solut. acid. tannic 1.0—5.0 grammes (gr. xv to gr. lxxv) to 150.0 grammes (ʒ v).
Adde solut. sodii bicarb. q. s., ad react. alkalin.
M.

In this formula the tannin is most readily absorbed. This very slight alkaline solution must be kept in a well stoppered bottle and employed in from one to two days, inasmuch as it is changed under the influence of air and light, into a light-brown, greenish-brown or dark-green color, by the products of oxidation which are formed in it.

Alkaline tannin albuminate:

℞ Acid. tannic 2.0—5.0 grammes (ʒ ss to ʒ j¼).
Aq. dest. 100.0 grammes (ʒ iij).
Adde agitando.
Album. ovi unus.
Sodii bicarb. solut, q. s. et. fiat solutio limpida.
M.

This solution unites in itself the tannin albuminate and the tannate of sodium. It is best adapted to cases requiring the prolonged employment of tannin. It must be freshly prepared, as it does not keep for more than two days.

Hints on Chronic Constipation.

The prevalence, as well as evils, of chronic constipation have been commented on from the earliest days of medicine, and the remedies which have been suggested for the relief of this condition are very numerous. The more thorough conception of the condition which manifests itself in this symptom, has made the modern treatment of it more successful than that of previous years; but in spite of this improved conception, the empiricism which characterizes the treatment of constipation is still of such a nature as to reflect but little credit upon scientific medicine. Physicians are all too apt to defer in its treatment to the popular belief in the omnipotence of drugs. In the treatment of constipation, more emphatically perhaps than in the treatment of any other condition, drugs are more successful as they are the handmaids of nature, and all attempts made to relieve this condition with drugs alone, and regardless of the rules of correct living, must be doomed to disappointment from the beginning.

In an article in a recent number of the Canada Lancet Dr. Haultain discusses some of the non-medical adjuvants to the remedies administered for the relief of constipation. An attention to the rules which he formulates would, in our opinion, cause the medicines exhibited to be attended with much more satisfactory results than is now the case.

1st. Regular attempts at defecation should be made daily, with a view to educating the bowels to the act. The patient should make the attempt not only after breakfast, as usual, but also after the midday and evening meals.

2nd. The ingestion of a glass of cold water before each meal, and the supplementing of the last meal of the day with a small quantity of spirits, diluted with hot water. This method of taking spirits is very common among the lower and middle classes of England, and Dr. H. maintains that it has a very decided influence on the peristaltic action of the intestines, and is preferable to any stomachic.

3d. The abdomen should be kneaded with the fingers, especially along the descending colon, sigmoid flexure and rectum while at stool, and in the intervals of expulsion of feculent matter. The theory upon which the success of this method depends is that the colon, rectum, etc., do not become distended to the extent which they otherwise would be, and are, were there only the usual evacuation in the 24 hours.

While the above instructions are valuable in the main, we can scarcely endorse Dr. Haultain's opinion that they are of themselves sufficient to break up the constipated habit. This habit depends on causes which the best directed efforts at "education" of the muscular structure of the intestines cannot overcome. While the expulsive efforts of the voluntary muscles of the abdomen are very essential to defecation, the tonicity of the non-striped or involuntary muscular fibre of the intestines must be restored, in order that it may contract under the physiological stimulus. This tonicity can only be satisfactorily restored by medicines.

Iodine in Malarial Fevers.

Of late years the anti-malarial properties of the tincture of iodine have been vouched for by reliable authorities. We believe, however, that its reputation as a substitute for quinine in malarial fevers was most enhanced through the claims made for it by Dr. Comegys, U. S. Army. Following this gentleman's recommendation it was subjected to a very extensive trial in malarial districts. The results, however, have not been at all strongly corroborative of the claims he made for it. The latest report on the subject comes to us in the last number of the American Journal of the Medical Sciences, in which Drs. Atkinson and Woods give the results of their somewhat extended experiments. These gentlemen availed themselves of the facilities afforded at Bay View Asylum, Baltimore, during the late summer and autumn of 1882, at which institution there was a very considerable prevalence of malarial fevers. The fol-

lowing is a concise summary of the conclusions to which their observations led them:

First, iodine has some slight influence in controling the paroxysms of intermittent fevers; second, it takes usually three to eight days to exercise this influence; third, in cures effected there is great danger of a relapse, certainly as great as with Peruvian bark; fourth, it is certain to add to any existing diarrhœa or nausea, and is liable to cause each if they do not already exist; fifth, in remittents its effect, if any, is seen in the slow and gradual reduction of temperature, and this reduction is liable to sudden interruptions; sixth, in both forms of malarial fever it is infinitely inferior to either cinchonidia or quinine—certainly as regards the immediate control of the fever, and as far as we are able to judge, as regards relapses also; seventh, from an economical point of view the slowness and uncertainty of its action make its use in hospital practice fully as expensive as Peruvian bark; eighth, there seems to be ground to believe that it will cause albuminuria; ninth, in the large majority of ordinary cases of acute malarial poisoning it has no influence whatever.

Bromine in Diphtheria.

At a meeting of the Verein für Innere Medicin, in Berlin, held on the 21st of May, and reported in the Deutsche Medicinische Wochenschrift, Dr. Hiller spoke of the favorable influence which he had observed bromine to have in the treatment of diphtheria in the wards of the Charité Hôpital. He employs an active solution combined with the bromide of potassium, four parts of each, to 2,000 of water, as an inhalation. To prevent the entrance of the gas into the nose and eyes, a glass cylinder should be employed for inhaling, and like precautions must be taken in making the application to the throat, for which a stronger solution (0.5 to 1 per cent.) is employed. The throat should be painted every half hour, and the gas inhaled twice as often, and the former of the applications is an important part of the treatment. These applications, it is claimed, remove the membrane within 24 hours, and a tendency to its return is easily checked by liquid applications. Bromine is not a new remedy in this affection, having been recommended by Schuetz and Gottwald as long ago as 1862, and in the opinion of Hiller it was only its irritating properties which prevented it from coming into general use at that time.

At the same meeting of the Verein, Herr Rabaut related a case in which a man who had been ordered bromine to inhale drank almost the whole of the contents of the bottle, 15 grains of bromine, and an equal quanity of bromide of potassium, diluted with 100 parts of water. No poisonous effects ensued, and the patient speedily recovered from his diphtheritic attack.

Herr Steinhauer had seen irritation of the trachea, leading to diphtheritic deposit, follow the inhalation of bromine. It was pointed out by Herr Wernich, however, that the latter effect might be prevented by inhaling through a narrow opening, so as to limit the action of the gas.

Epidermic Application of the Oleate of Quinine.

The epidermic application of drugs, and particularly of their active principles, has received a very considerable importance through the valuable suggestions which Dr. Shoemaker has lately made on the subject of oleic acid and its compounds with various alkaloids. The North Carolina Medical Journal gives the experience of its editor, Dr. Thos. F. Wood, in the epidermic use of the oleate of quinine. The preparation employed consisted of one part of quinine (alkaloid) to two parts of oleic acid. The first cases in which the remedy was applied were those of infants, two of whom were sick with gastro-intestinal catarrh, and the other with cholera infantum—affections in which it is highly important that the alimentary canal should be accorded all the rest possible, compatible with the proper amount of nourishment. It is very necessary in these cases that the stomach should be reserved exclusively for food, and that it be not disturbed by the ingestion of of the medicines which may be necessary in its treatment. To accomplish the introduction of medicines through other avenues than the stomach, in these cases, must have been frequently felt to be a desideratum by every practitioner. In Dr. Wood's cases the oleate, as he prepared it, was applied to the inside of the thighs and arm-pits first, and then all over the abdomen until it was taken up by the skin, taking care that the fluid did not run. In this manner he applied 60 grains of alkaloid in 24 hours. He succeeded by this method in inducing cinchonism. From a clinical standpoint there was good reason to believe that the oleate reduced the temperature in the infants, and whether the results were positively attributable to the quinine, to the spontaneous subsidence of the fever, or the antipyretic influence of the oil upon the skin, the doctor does not undertake to determine. The point which he particularly seeks to establish in his experiment, is the fact of the possibility of ready introduction of quinine into the system when given in the form of the oleate.

The Treatment of Onychia and Ingrowing Toe-Nail.

An effective means for the relief of these comparatively trivial and yet very troublesome affections is a desideratum. Dr. M. A. Veeder, of Lyons, N. Y., communicates to the Medical Record a method of treatment which has proven tolerably successful in his practice. He first destroys the fungous granulations by means of strong carbolic acid or silver nitrate, and then presses back the diseased tissue away from the edges of the nail, by means of a piece of the ordinary felt-plaster, so much used for corns. He takes a piece of this plaster and cuts it to the size of the exposed surface of the nail. He then moistens the adhesive surface of the plaster and applies it directly to the surface of the nail, pressing the margins of the felt firmly against the diseased parts surrounding the nail. This should be held in place until dry, when it will be found to be strongly adherent, and it may then be covered by a bandage as a means of exerting still further pressure on the diseased parts. This dressing may require to be renewed repeatedly at intervals of several days. The length of time required for a radical cure depends upon the extent to which the nail has been disintegrated, the cure not being complete until the parts destroyed are replaced by a fresh growth of nail substance.

Permanganate of Potash in Diabetes.

The beneficial action of the permanganate of potash in diabetes has been extolled by Masoin in the Lancet. He attributes its benefit to the action which it exerts upon the liver. This new application of this salt is, moreover, particularly interesting at this time following so shortly the claims which Drs. Ringer and Murrell have made for it in the treatment of amenorrhœa. It requires but slight familiarity with the properties of the salt to convince one of the difficulties which must present themselves in connection with its pharmaceutical preparation into pills. The oxygen in held in such very loose combination that the salt is readily decomposed in the presence of organic matter. The use, therefore, of the ordinary excipients in the manufacture of pills would be obviously out of the question. An inorganic excipient is a *sine qua non* in the manufacture of permanganate potash pills. A very excellent grade of pills thus made has been given the profession from the laboratory of Messrs. Parke, Davis & Co. A sample of these pills in our possession has remained absolutely unchanged for over two months.

Medicated Gelatine in the Treatment of Skin Diseases.

Dr. Pick, in the Algemeiner Wiener Med. Zeitung, speaks very highly of medicated gelatine as a local application in various skin diseases. It is a cleanly and convenient dressing, and obviates the necessity of bandages or plasters to retain the application. After a bath the patient applies with a brush gelatine melted in water, and after it is dry paints it over with a thin coat of glycerine. The latter prevents cracking and chipping off of the dry gelatine, and also keeps it flexible, so that the joint movements are not interfered with. The following is the mode of preparing a medicated glycerine: Dissolve 50 parts of glycerine in 100 parts of distilled water in a water bath. Then add the medicaments in the desired proportion, stirring constantly. Then set the mixture aside, and when cold wrap in oiled paper. The patient is instructed to melt a piece of this gelatine cake in a saucer set in hot water, and when fluid, to apply with a camel's hair pencil to the diseased surface. When it is desired to make a fresh application, the patient takes a bath, and the old dressing is washed away.

The Oleate of Zinc.

Dr. Wm. Murrell communicates to the London Medical Record an article by Dr. John V. Shoemaker on the "Oleates and Oleo-palmitates given in Skin Diseases." He lends the article the endorsement of his approval, and gives his experience with the oleate of zinc which he had his druggist prepare for him after Dr. Shoemaker's method. He pronounces the preparation thus made a very great improvement over the old so-called oleate. It is a fine, pearl-colored powder, with a soft-soap feeling, and very much like powdered French chalk. This powder, mixed with thymol in the proportion of 1 to 500, and used as a dusting powder, forms an excellent application in many varieties of local sweating. Dr. Murrell has used it with much success in the treatment of night sweats in phthisis.

To Stop Hiccough.

Dr. W. E. Shaw, of Cincinnati, O., communicates to the Medical Record a very simple means of relieving hiccough. His method is to place the tips of the fingers of both hands in position of complete supination against the abdominal muscles at the lower and outer junctions of the epigastric and hypochondriac regions. With the finger tips in this position, firm and very gradual pressure is to be made backward and upward against the diaphragm. The pressure should be continued for some little time after the diaphragm has ceased its spasmodic contractions, when the fingers should be gradually withdrawn. It is certainly a very simple device, and if it shall prove as effectual as it is said to prove, it is none the less valuable on account of its simplicity.

A Wart Cure.

The following is recommended by Vidal as another addition to the long, but unsatisfactory list of remedies recommended for the removal of warts: He bandages the wart-covered hands in flannel and green soap. After a number of such applications, the warts are said to become soft, in which condition they can be easily removed.

New Remedies.

Euphorbia Pilulifera, the Queensland Asthma Herb.—The following clipping from the Town and Country Journal, N. S. Wales, will, although taken from a secular print, be read with interest:

"It is very probable that but for the publication of a portrait and description of this now popular remedy in the columns of this journal, it would have still have remained unrecognized in many localities in which it has been found and largely availed of, both in Queensland and elsewhere. Hundreds of specimens were forwarded to us for identification by correspondents, who very properly felt timid about using an herb belonging to so dangerous a genus before submitting to us, and relying upon their own decision on comparing the specimens with the portrait. Amongst other places at which the herb was first recognized as a common indigenous weed was Fiji, and it would seem that its recognition has proved of considerable advantage in that Crown colony. Nor would the mere fact of finding or recognizing the herb have been sufficient to have induced the residents to avail themselves of its medicinal virtues, and probably its therapeutic value would have still remained in comparative obscurity had we rested content with merely enabling or helping residents to identify this species. Having privately secured satisfactory evidence, we recommended its trial by persons suffering from bronchial troubles, and as our readers are aware, many correspondents have testified to the beneficial effects of the simple decoction.

That the people of Fiji have profited by their thus acquired knowledge, the following letter to the editor of the "Australasian" is satisfactory evidence:—

A CURE FOR ASTHMA.

Sir.—I have not seen any notice in your valuable journal of that simple cure for asthma, the euphorbia pilulifera, better known as the Queensland asthma plant. It seems to be well-known in New South Wales, judging by the numerous testimonials that have been published in the Town and Country Journal, Sydney. The plant seems to be a native of the tropics, as it is found all over the Polynesian Islands, as well as in Queensland. My experience of the herb is that it is a simple and cheap remedy, not only for asthma, but for influenza and such-like ailments. I am a large employer of labor, and as Fiji is seldom free from influenza and colds, I used to have most of my men down once or twice a year, and generally they were a week sick, *i. e.*, two days complaining, two days in the house, two days recovering. But now the first signs of influenza or

colds attacking either the natives or the whites I give them a dose of euphorbia, and the are not troubled any more with it. The dose that I give is one handful of herb to two quarts of water; two hours' gentle boiling; half a cupful going to bed, with or without sugar and milk. Here is one of several cases of relief, if not cure, that has come under my notice. A neighbor of mine, a sea captain, who had to leave his profession and live on shore, and has been living ashore these last 12 years, because he was such a martyr to asthma, after taking two or three doses, said it was "wonderful stuff"; he never had such relief before. That was nine months ago, and I don't think he has had an attack since. Some people prefer the herb as a beverage to the common China teas. A little euphorbia, mixed with ordinary congou, gives it quite an Indian flavor. For medicinal purposes the proper proportions are 1 oz. to 1½ oz. herb to three quarts water, simmered down to one quart; a wineglassful three time a day, or when the cough is troublesome. Chemists and most seedsmen would be most likely to have the herb in stock. If by writing this I should be the means of affording relief to those suffering from asthma and other bronchial affections my aim will be attained. Thanking you for your valuable space in your wide-spread journal —Yours, ANTI-ASTHMA.

Fiji, April 30.

We must, however, impress upon our readers the necessity of caution in procuring their supply of the herb, lest a worthless weed, or even a noxious one may be supplied by mistake. At present the herb is procured from natural sources, and it is quite possible now that there is a demand for it, that inexperienced or incompetent persons will collect, and others deal in it. There ought therefore to be reasonable certainty that the true herb has been obtained before venturing to use it. The genus euphorbia is a dangerous one and a mistake is easily made, so that there should be care exercised that the supply has the guarantee of a competent and responsible person. We know that inexperienced persons have employed native blacks to collect the herb for sale, so that this caution is quite necessary.

The euphorbia pilulifera seed would certainly germinate in England, not only "indoors," but outside, if sown in summer. It would doubtless also grow and develop up to the fruiting stage, but it is doubtful if it would, in such a cool climate, secrete, to a normal amount, those principles which have gained for it such a wide-spread reputation as a remedy in affections of an asthmatic or bronchial nature.

The Physiological Action of Convallaria Majalis (Lily of the Valley).—This drug, long known as a cardiac poison, has lately been put forward as a remedy of considerable value in heart disease and dropsies. Its reputation in dropsy has been partially made by the peasants of Russia. Walz, in 1830, isolated two glucosides convallamarin and convallarin. Under the influence of acids convallamarin splits up into convallameretin and sugar, whilst convallarin becomes convallaretin and sugar. Experiments seem to show that the activity resides in convallamarin and maialine. Marme has made some experiments with the active principles. Convallarin acts as a purgative on animals, whilst convallamarin, in small doses, is an emetic and acts like digitaline in causing arrest of the heart in systole. The heart at the time of arrest is not electrically irritable. The cardiac arrest takes place with or without division of the pneumogastrics. The arterial tension does not sink during the slowing of the heart, and increases greatly during the acceleration. The respiration during the decrease of the cardiac frequency is mainly accelerated. Having been requested by my friend, Dr. Amidon, to make some experiments with this drug, I studied its action on the heart of cold and warm-blooded animals. An ounce of the fluid extract of the root of the drug was taken, and to it was added an ounce of water; the whole was evaporated to half an ounce at the temperature of 175° F. This I shall denominate an infusion.

Experiment 1.—A rabbit received subcutaneously within fifteen minutes ninety-six drops of the fl. ext. of conval. It was soon noticed that the animal sank down on its abdomen; the saliva flowed from the mouth; twitching of the muscles, especially of the neck; heart beating very slowly and irregularly; breathing irregular.

Within the second period of fifteen minutes, that is, half an hour after the first injection, death ensued; heart arrested in systole, the right auricle still beating. After death the heart contracted to one half its original size.

Experiment 2.—Frog.

TIME.		HEART-BEATS PER MINUTE.
2. P. M.		30
2. 2 "	Eight drops of the infusion conval. subcutaneously.	
2. 5 "		39
2. 7 "	Clonic spasm.	
2.10 "		36
2.12 "		12
2.16 "	Whole heart arrested.	

Experiment 3.—Frog.

TIME.		HEART-BEATS PER MINUTE.
2.30 P. M.		48
2.32 "	Eight drops of infus. conval. subcutaneously.	
2.34 "	Ventricle of heart —one half contracting slower than the other half, causing a twisting of the ventricle.	48
2.36 "		24
2.37 "	Ventricle is arrested.	
2.40 "	Sinus and auricle making a few imperfect beats.	

These experiments are sufficient to demonstrate that convallaria causes an arrest of the heart, being preceded in the beginning by a temporary acceleration. After death the heart contracts on itself, till in the case of the frog it has a glistening whiteness. To determine more accurately the cardiac changes, experiments were made on rabbits with the aid of Ludwig's kymographion.

Experiment 4.—Rabbit. Carotid and jugular prepared.

TIME.		PULSE.	PRESSURE.
2.25. 0 P. M.		66	86
	Nine minims of infus. conval. by the jugular.		
2.25.15 "		71	104
2.25.30 "		60	140
2.25.45 "		65	164
2.26. 0 "		65	160
2.26.15 "		52	164
2.27. 0 "		51	180 spasm.
2.27.15 "		44	120
2.27.30 "		—	130
2.27.45		death.	

As is seen in the above experiment, convallaria increases both arterial tension and cardiac frequency, the former rising very greatly. These are both succeeded by a fall below normal. To determine if the fall was due to cardio-inhibitory excitation was the object of the next experiment. Atropin was given before the introduction of the convallaria.

Experiment 5.—Rabbit, vagi paralyzed by atropin.

TIME.		PULSE.	PRESSURE.
1.20. 0 P. M.	Five drops of infus. of conval. by the jugular toward the heart.	67	140
1.20.15	"	68	160
1.20.45	"	72	180
1.21. 0	"	61	198
1.21.15	"	62	180
1.21.30	"	62	198
1.21.45	"	68	184
1.22.30	"	52	190
1.22.45	"	41	190
1.23. 0	"	30	150
1.23.15	"	23	94
1.23.30	"	12	70
1.24. 0	"	death.	

It is quite evident that convallaria reduces the cardiac frequency, not by excitation of the inhibitory ganglia of the heart, but by an action on some other portion of the heart, probably the muscle.

Experiment 6.—Rabbit, cord cut between the atlas and occiput; vagi, depressors, and sympathetici divided in the neck; artificial respiration kept up; carotid and jugular prepared.

TIME.		PULSE.	PRESSURE.
2.30. 0 P. M.	Five drops of infus. conval. by the jugular.	25	30
2.30.15	"	68	160
2.30.30	"	25	40
2.31.15	"	18	66
2.31.30	"	12	90
2.31.45	"	24	70
2.32. 0	"	22	70
2.33. 0	"	0	4
		Death.	

That the rise of arterial tension is not wholly due to a stimulation of the main vaso-motor centre is shown by the above experiment. Here the increase of tension is due to one of three causes: the spinal vaso-motor centres, or the peripheral vaso-motor system, or the heart itself, are driven into unwonted activity. The great rise is hardly due to any stimulation of the heart, for the isolated heart of the frog or terrapin causes no marked increase of muscular force when drugged with convallaria. To differentiate between the spinal vaso-motor centres and the peripheral vaso-motor system no experiments were made.

These experiments demonstrate:

1. That convallaria increases the arterial tension greatly at the same time as the heart begins to beat more frequently; that the heart begins to fall before the tension.

2. The decrease of cardiac frequency is not due to cardio-inhibitory excitation, but to an action on the heart itself, probably its muscular structure.

3. The rise of arterial tension is mainly due to stimulation of other vaso-motor apparatus than the main monarchical vaso-motor centre.

4. The drug causes clonic spasms.

If we compare the action of this drug with digitalis, it is found that the slowing of each is due to different causes: with digitalis it is due to a cardio-inhibitory excitation; with convallaria some other part of the heart is the agent. Digitalis, as a rule, does not primarily accelerate the heart; convallaria does. After section of the spinal cord digitalis is powerless to increase arterial tension, whilst convallaria does. If now we compare the action of this drug with other cardiac agents, as aconite, urechites suberecta, or astragalus mollisimus, it is found that it does not belong to this group. As aconite, urechites, and astragalus resemble each other in their action, yet many important differences exist, so does convallaria differ from digitalis in several important particulars. The great rise of arterial tension would indicate its value in dropsies, reasoning upon Ludwig's theory of renal secretion. It is a drug which must not be pushed to any great extent, if I am to judge from a rather extensive experience with cardiac agents upon the hearts of the lower animals.—Isaac Ott, M. D., in *Archives of Medicine.*

On the Active Principles of the Convallaria Majalis.—We condense the following from an article on the subject by M. C. Tanret, in the current number of the Répertoire de Pharmacie.

Messrs. Sée and Langlebert's researches do not appear to have proved definitely what part of the plant contains most of the active principles. The roots in their hands do not seem to have given the results which they expected. On the other hand the extract of the flowers, although acting physiologically upon the lower animals, seems to have a much slighter effect on the human subject, the administration of an infusion of 5 or 6 grammes (77.5 and 93 grains) being followed by no action whatever. As for the leaves they have so little effect that an extract made from them had to be given in a triple dose in order to produce the same effects as an extract made from the other parts of the plant. The best results obtained were with a watery extract, made from the flowers and stalks, to which was added one-third of their weight of roots and leaves.

It should also be observed that flowering time is not generally the period chosen for gathering plants for medicinal purposes, the watery juices contained in the leaves and roots not being sufficiently elaborated at this season of the year. It follows, therefore, that the results obtained with the plant gathered in May might greatly vary if the gathering were deferred until late in the season, a serious consideration when we are dealing with so active a plant.

M. Tanret adds that the extracts alter more or less during evaporation, so that when considering the physiological effects of the convallaria it is better to deal with the active principles.

In 1858 Walz announced that the convallaria contained two glucosides which he respectively named *convallarine* and *convallamarine*. In 1867 Marmé obtained a purgative effect with convallarine in doses of from 3 to 4 grains, but he found that convallamarine acted principally on the heart when injected into the veins, and that in larger doses it caused death by stopping the action of the heart and setting up clonic convulsions, closely resembling in its action other cardiac poisons, such as digitaline, helleborine, antiarine, etc.

Convallarine is soluble in alcohol, but insoluble in water, whereas convallaramine is soluble, in all proportions, in water and methylic and ethylic alcohols, but insoluble in ethylic ether, amylic alcohol and chloroform. By boiling with acids it is converted into glucose and convallamaretine, according to Walz. It dissolves in sulphuric acid, forming a brown fluid, but if it is merely damped with water and then submitted to the action of this reagent it turns violet. The color disappearing on the addition of water, its taste is bitter with a peculiar after taste.

M. Tanret has modified Walz's method of obtaining this glucoside in the following manner:

Make an alcoholic tincture of the whole of the plant; precipitate with plumbic diacetate and filter. Precipitate the excess of lead by dilute sulphuric acid, being careful not to add an excess. Distil off the alcohol, allowing the last portion of the alcohol to evaporate spontaneously. Filter and treat with tannin, taking care to keep the liquid neutral by careful additions of a weak solution of carbonate of sodium. Filter off the tannic precipitate, wash and dissolve in alcohol of 60°. Decolorize with animal charcoal and decompose with oxide of zinc, filter and evaporate to dryness. Re-dissolve in alcohol and evaporate once more, the operation being repeated if necessary until the resulting product is nearly white. Thus prepared, convallamarine closely re-

sembles digitaline. By this process 2 grammes were obtained from 12 kilogrammes of the fresh plant gathered in the month of August.

The process of preparation, it will be seen, is in no way difficult, and if the convallaria is to take its place in our materia medica the use of the plant itself must be abandoned in favor of its glucoside, convallamarine. M. Tanret has been unable to detect M. Stanislas Martin's alkaloid, majaline, found by him in the flowers, either in the root, stalks or leaves.

M. Germain Sée has been investigating the physiological action of aqueous extracts of the whole plant with the following results:

1. The convallaria majalis is a most important cardiac medicament.

2. Administered in doses of from one gramme to one and a half gramme per diem, the aqueous extract produces constant and constantly favorable effects on the heart by moderating its action, and often re-establishing its normal rhythm. On the other hand the heart's action is strengthened, the exaggerated arterial beats are regularized and the respiratory system acquires greater inspiratory power, the difficulty of breathing being moderated, and giving rise to less painful symptoms.

3. It also acts in the most marked manner as a powerful, constant, and valuable diuretic, rendering it peculiarly fitted for the treatment of cardiac dropsy.

4. It is useful in all affections of the heart, there being apparently no contra-indications. It has no injurious effects on the cerebro-spinal system, nor on the digestive organs. It does not accumulate in the system, and its effects speedily pass away.

5. For the above purposes it is superior to digitalis, which very often cannot be exhibited, owing to its injurious action, on the appetite and the digestive organs, and to its causing vomiting and pupilar dilation after more or less prolonged use, effects being often produced diametrically opposed to those sought to be obtained.

6. It is inferior to morphine and iodine in the treatment of cardiac dyspnœa, but the first-named medicament produces suppression of urine. In conjunction with the aqueous extract, potassic iodide plays a most important part in the treatment of cardiac asthma.

7. To sum up, the aqueous extract of convallaria majalis surpasses all other remedies in the treatment of cardiac diseases, especially when complicated with dropsy, rendering the administration of other diuretics unnecessary.—*The Chemists' Journal.*

Convallaria Majalis—A Powerful Poison to Animals.—I have read with the greatest interest the clinical experience of Dr. Henry Ling Taylor with the new cardiac tonic—convallaria majalis. One caution only seems necessary. From experiments on animals, it is proved that convallaria is a powerful toxic agent, not inferior to digitalis in its power to cause speedy death. Therefore, in its clinical application to human patients it is well to be a little careful about the dose prescribed. I am surprised at the largeness of the dose given in some of Dr. Taylor's cases, *i. e.*, one ounce of Parke, Davis & Co.'s fluid extract. It would never do to give this as a commencing dose.

I have made some experiments on animals to determine the poisonous effects of convallaria. The preparation used—the only reliable preparation now in the market—was Parke, Davis & Co.'s fluid extract. I shall not burden you with the details of all these experiments. I am a very crude experimenter, and my experiments all lack precision. I shall therefore copy from my note-book memoranda of only three or four:

September 16, 1882.—Poisoned a four weeks kitten with fluid extract convallaria; ten drops Parke, Davis & Co.'s fluid extract under skin of back. Trembling; hurried respiration; staggering. Then convulsions and death in fifteen minutes from the reception of the poison. Necropsy showed heart arrested in systole, both ventricles empty and firmly contracted.

October 3d.—A four months kitten, plump and healthy. Fifteen minims convallaria under skin of back. Kitten lay stupefied fourteen minutes; rapid respiration and circulation; then went into convulsions, first clonic, then tonic, and died with screams. Heart ventricles empty and firmly contracted.

Other experiments on kittens are so similar that a detail accounted is not necessary.

Five minims under the skin of a frog's back arrested the heart's action in less than twenty minutes. Professor Sée says: "The phenomena are identical in the same conditions in cold-blooded animals, but the heart of the frog and turtle resist longer the action of the drug."

Convallaria, then, is a cardiac poison which arrests the heart in systole like digitalis. In several experiments on kittens which I have poisoned with digitalis, and in which I injected under the skin from ten to fifteen minims of the tincture, death took place in about a quarter of an hour, but without convulsions, complete stupefaction and paralysis of all the vital functions being the marked phenomena.

In some of Professor Sée's recorded experiments with convallaria, he found four drops of a fluid extract to cause the death of medium-sized dogs in ten minutes. From a private letter from Dr. H. L. Taylor, dated February 3d, I quote the following sentence, which shall be my justification for citing these few imperfect experiments—especially imperfect because I did not ascertain the minimum dose which would cause death, as well as the weight of the animals experimented on: "I am afraid that incautious men may do damage to their patients and to the reputation of the drug by beginning with large doses in susceptible persons unless the toxic power of the drug is known. My article failed to bring this out."—E. P. Hurd, M. D., in *Medical Record.*

Berberis Aquifolium.—This remedy I regard as one of the most important remedies that we have in our materia medica for the treatment of syphilis; also valuable in scrofula, and in that diseased condition of the blood where boils are the crop.

H. C., a blacksmith, who had been indiscreet in placing his affections in other places than his own home, contracted this disease in the summer of 1879. He tried treatment by the recipe plan, then applied to a physician, who administered to him various compounds with no avail. In January, 1880, being about six months after he had contracted the disease, he applied to me for treatment. His condition now was extremely pitiable, indeed, his tongue was swollen, with great fissures and small ulcers about its edges; the mucous membrane of the mouth and throat was inflamed and excoriated, with here and there deep and eating sores, from which there was a continuous flow of a thick tenacious mucus that caused him to be continually spitting. This condition of his mouth caused him much pain and gave him much trouble in eating and talking. The anterior perineum was also cracked and sore, from which there was a continuous exudation. I prescribed:

℞ Berberis aquifolium, gtts. xv.

Four times per day.

For the excoriation and ulcers I gave him:

℞ Salicylic acid,
Hydrastis pulv., ℥ss 3j.

Triturate and apply two or three times per day.

He commenced to improve immediately, and in the course of two weeks there was a marked change for the better. This treatment was continued until July of the same year, at which time there was not, as far as could be seen, a single symptom of the disease remaining. His wife contracted the same dis-

ease from him and applied to me in April for treatment. Her symptoms were not so severe as her husband's, but were the same. I gave her the same treatment, which was continued until August, at which time she was discharged as cured. There has been no return of the symptoms since, it now being three years since they were pronounced cured. I have used this remedy successfully in a number of other cases of this disease as well as scrofula and other kindred maladies.—G. G. Barnabus, M. D., in the *Independent Medical Investigator.*

Eucalyptus Globulus in Gynæcological Practice.—This drug is destined to play an important part in gynæcological therapeutics. It is only since 1865 that its therapeutic action has been tested, and, with the cloud of new remedies constantly before the attention of the profession, it has not received the full trial which it is sure to get eventually.

Dr. Andrew F. Currier reports in the American Journal of the Medical Sciences for October, 1882, five different cases of various natures in which the local application of this drug on vaginal tampons proved of the greatest anæsthetic value. Besides its anæsthetic effects, it is, as we know, antiseptic and antiperiodic, and hence it will be of use in that large class of cases where foul-smelling discharges exist, and also as an adjuvant in the treatment of malaria. The absorptive function of the vaginal mucous membrane has been comparatively little employed in the constitutional treatment, and this is a field which yet remains to be worked up. A daily application of this substance must have more than a local influence. It will be difficult to give treatment so frequently, excepting in hospital practice. Much better results would follow could a continuous effect of this, as well as some other means of treatment, be obtained, but the expense and annoyance, and in many cases the dread of pain prevent. The very fair degree of success obtained in treating the cases described in this paper leads him to believe, that in less severe cases we may feel almost positive that we can give great relief; indeed, his experience in private practice confirms that belief. In a quite different class of cases eucalyptus will also be serviceable. He refers to wounds of the breast after the removal of tumors. With the increasing favor of the open method of treating such wounds, especially when the growth removed has been of a cancerous nature, its stimulant and antiseptic properties will prove very acceptable. *American Medical Weekly.*

Convallaria Majalis.—Dr. Juk (Proceedings of the Kieff Med. Society, 1882, Fasc. 1), details four cases, and arrives at the following conclusions:

1. The aqueous extract of convallaria is useful in nervous disturbances of the heart's action.

2. It does not give any constant and positive results in cases of heart-disease with disturbed compensation. (It is well to add that, of the author's four cases, compensation was absent only in one patient.)

3. It does not increase the amount of urine. [Almost all other observers state that it does; see Professor See's paper in the Bulletin Gén. de Thérapeutique, July 30, 1882, and in the Brit. Med. Jour., February 24, 1883, p. 368; Bianchi's in the London Medical Record, March, 1883, p. 85; Troitzky's, Ibid, April, p. 121. Still Dr. Juk stands not alone; the diuretic action of convallaria is denied, also, by Dr. Stiller, in the Pester Med. Chir. Presse, 1882, Nos. 47 and 48.—*Rep.*]

4. The heart's action becomes slower and more regular soon after the administration of a dose, and for this reason the extract of lily of the valley may be used as a temporary sedative.

5. Convallaria does not possess any cumulative action, neither does it interfere with indigestion.—*London Medical Journal.*

Quebracho.—The experiences of Simon and Nietz on the effects of *aspidosperma Quebracho*, published in La Cronica Médica, conclude:

1. Quebracho moderates the respiratory movements; it is perhaps the digitalis of the lungs.

2. It is an efficacious remedy in dyspnœa caused by purely nervous derangement, and lesions of the respiratory and circulatory apparatus.

3. Its action is immediate, and its effects certain.

4. Its efficacy in dyspnœa of cardiac origin leads to the belief that its action is exercised not only on that portion of the nervous system presiding over the respiratory movements, but also on the innervating apparatus of the heart.

5. It appears to facilitate expectoration.

It has been used with satisfactory results in cases of pulmonary emphysema, with intense dyspnœa, valvular lesions, catarrhal bronchitis with asthma, broncho-pulmonary catarrh following cardiac disease, etc. The tincture or extract may be used:

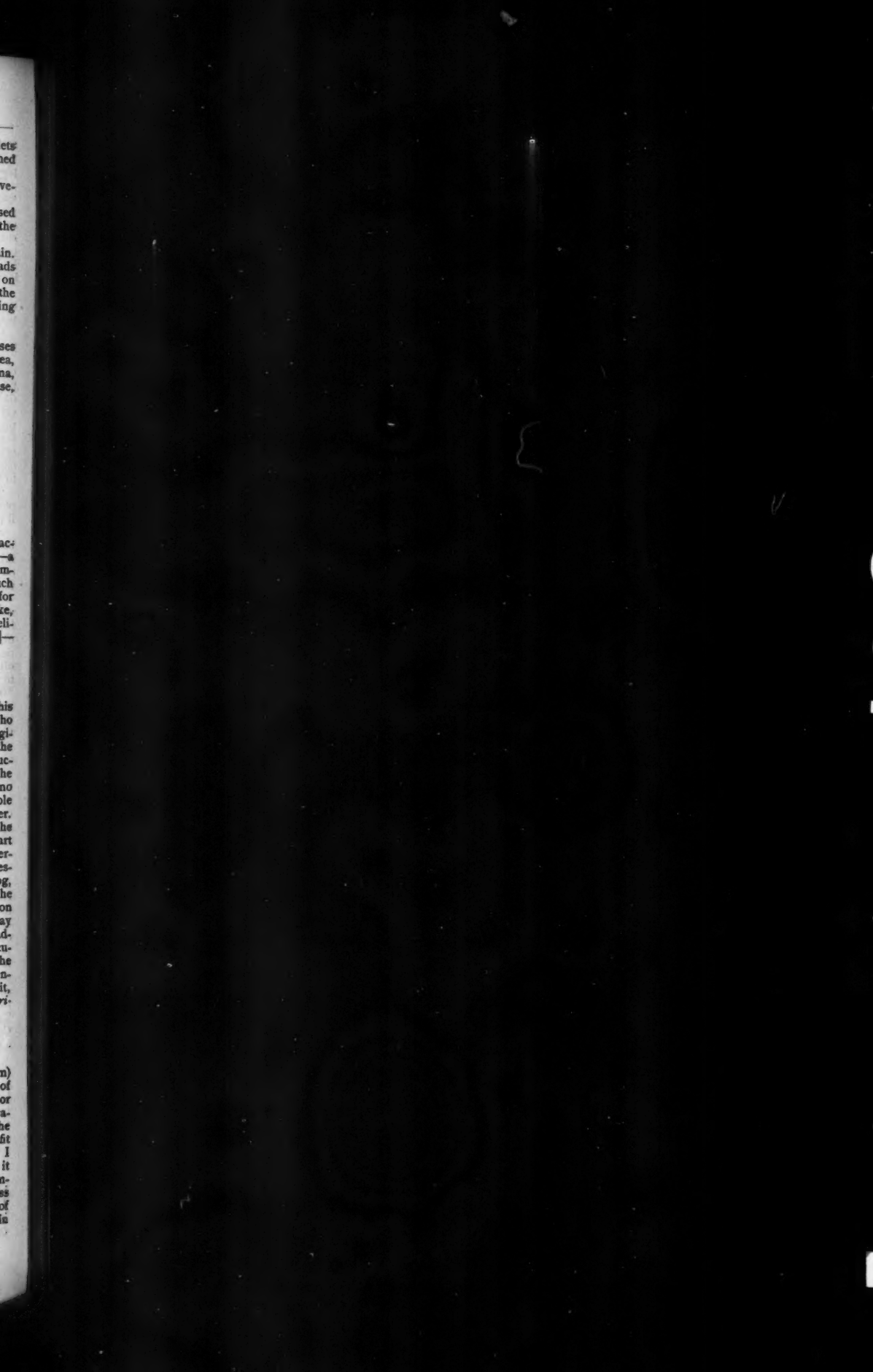
℞ Tinct. quebracho [1-10], 4 grammes
Water, 80 grammes
Syrup, 15 grammes.

Mix. S.: Dessert-spoonful every four hours.

℞ Dried extract of quebracho, 2 grammes
Water, 50 grammes
Syrup, 30 grammes.

Mix. S.: Teaspoonful every 2 or 3 hours.

[Our European confrères do not seem to be acquainted with the elegant American fluid extracts—a few drops of which are a dose. We would recommend that they adopt these instead of using such formulæ as the above, the only proper name for which is the inelegant term "belly-wash." Parke, Davis & Co.. of Detroit, Mich., prepare a most reliable fluid extract of quebracho.—TRANSLATOR.]—*Virginia Medical Monthly.*

Action of Adonis Vernalis.—The action of this plant was first investigated by Dr. Bubnow, who concluded that it acted like digitalis both physiologically and clinically. He was unable to isolate the active principle, but Dr. Cervello has been more successful. It is a glucoside to which he has given the name of adonidin. It contains no nitrogen, has no taste or smell, is amorphous and very bitter: soluble in spirit but sparingly soluble in ether and water. Its general action on animals is almost exactly the same as that of digitalin. It affects the frog's heart in the same way as digitalin, and seems more powerful than either digitoxin, or scillain; the dose necessary to stop the heart of either the red or green frog, in summer being 0.15 milligramme. It lessens the power of voluntary muscles to do work, and acts on the blood pressure almost exactly in the same way as digitalis. He thinks that this plant has the advantage over digitalis, in that it produces no accumulative action; but this is a point upon which he adduces no evidence, and it would be very unsafe indeed to draw any definite conclusion regarding it, without large clinical experience.—*Archiv f. experimentelle Pathologie and Pharmakologie*, vol. xv.

Kava Kava.—Kava Kava (piper methysticum) well known to travellers as the intoxicating drink of the Fijians, has lately been introduced as a cure for urethritis and gonorrhœa. From my own observations I find that its chief action is to reduce the acidity of the urine, and it may be given with benefit in cases where there is an uric acid diathesis. I have found it very useful in enlarged prostate, as it has a very beneficial action on the mucous membrane of the bladder, and prevents any uneasiness which might occur during the temporary retention of urine.—T. M. Kendall, M. R. C. S., L. R. C. P. in *British Med. Jour.*